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TREATMENT OF ACUTE PUERPERAL SEPSIS FROM A SURGICAL STANDPOINT.¹

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THE surgical treatment of conditions arising from sepsis during the puerperium still forms a vexed question. Many hold that, apart from a curettage in selected cases and the opening of purulent collections when these are so favorably situated that they can be incised without entering the general peritoneal cavity, surgery finds no legitimate field in puerperal sepsis. Others, again, lay great stress upon the question as to whether or not there is general infection, maintaining that when general infection exists surgical intervention is worse than useless. I have always been at a loss to understand why sepsis originating during the puerperium should be treated on general principles different from those followed at other times. When the surgeon meets with general septic manifestations attending disease of the gall-bladder, kidneys, appendix, or any other part of the body, he does not, as a rule, hesitate to intervene and attack the *fons et origo* of the disease. It is not a question for him whether or not the bacteria in the blood reach a certain arbitrary number, but it is a question whether he can remove the original focus and breeding point of the bacteria. My attitude has been that surgical interference in acute puerperal sepsis should be based on the same surgical principles. We must dismiss from our mind the rather fossilized idea that general puerperal sepsis portends a fatal issue and precludes any surgical intervention. Cases in which there was no doubt of the existence of general sepsis (or, if you prefer the term, acute septicemia), as shown by the presence of streptococci in the blood, have recovered, some of them after a major operation and some of them without any operation at all. It becomes, therefore, not so much a question as to whether or not general infection exists, but as to the character of the local lesion or lesions and as to the vitality of the patient.

The pathogenic bacteria in puerperal sepsis gain entrance to the body through a wound in the perineum, vagina, cervix or placental site. In some instances, fortunately very rare nowadays, on account of their virulence or of some unknown conditions of the tissues, the bacteria cause no reaction at the point of entrance; they

rapidly enter the general circulation, overwhelming the system and bringing about a fatal issue in the course of a few days. Such were the cases of "foudroyante" septicemia of former days.

Of course, surgery is as futile in such cases, as it would be under the same conditions if the germs had gained entrance through a small cut in the finger. Leaving these cases out of consideration, I maintain that puerperal sepsis forms a surgical disease just as much as does a septic infection of the hand or any other part of the body. The same general surgical principles should apply to it, modified, of course, by the character of the local tissues affected.

Every one, I think, is agreed upon the advisability of keeping clean and draining an infected wound of the perineum, vagina and cervix. It is the infected wounds of the vagina that are so frequently overlooked and, when detected, are so difficult to drain satisfactorily. I recall the case of a fat woman with a very redundant vagina, in whom infection had taken place through a deep crushed wound extending from a cervical tear on the left side and overlapped by the lateral posterior walls of the vagina. It was not detected until a thorough examination was made by the aid of various specula. The woman was profoundly septic, and it was only by frequent irrigations with various antiseptic solutions, the surface of the wound being exposed by the aid of vaginal retractors, that her life was saved. A vaginal douche given in the ordinary way is absolutely useless in such cases, as it is also in cases in which the infection has taken place in a tear in the cervix. In these wounds of the perineum, vaginal canal and cervix, I am in the habit of first applying the curette so as to remove all ragged edges and the exudate on the wound. I then freely apply pure carbolic acid to the surface and thereafter take means to keep up good drainage, irrigating every few hours with some antiseptic solution. In the presence of these infected wounds of the lower genital canal, the interior of the uterus should be religiously left alone unless there is a clear and imperative indication for interference. If such an indication exist, the greatest care should be exercised not to carry the infection upward into the uterine cavity. It is in the hidden or undetected septic wounds of the vaginal canal that septic phlebitis of the thigh and leg is likely to occur as a complication. The septic wounds of the lower genital canal may also cause lesions higher up, such as pelvic phlebitis and lymphangitis, and not infrequently they give rise to pelvic exudates or pelvic cellulitis which in turn may develop into a purulent collection, the treatment of which we will discuss later.

The interior of the uterus in puerperal sepsis is the most common avenue for the entrance of

¹ Read before the Section on Obstetrics of the Academy of Medicine, Nov. 29, 1901.

the pathogenic germs, and the placental site is the point *par excellence* of infection.

We frequently meet with cases of uterine sepsis which do not progress favorably in spite of curettage, intra-uterine injections and the most approved plan of general treatment. The temperature persists, the pulse remains rapid, and it is evident that the patient is losing ground; or the patient after a time apparently passes into convalescence, but is soon seized with a recurrence of chill, high temperature and accelerated pulse. A short time since I had under observation a patient who, on two different occasions, when she seemed well enough to be discharged from the hospital, was taken with chills and high fever. A thorough pelvic examination was negative; the uterus was perhaps a trifle large, but no other abnormal condition was found. I felt confident that a suppurating lesion existed either in the uterus or adnexa, consequently after due deliberation I opened the abdomen and to my chagrin I could find nothing abnormal save the left ovary, which was edematous and double the usual size. I removed it and closed the abdomen. Of course, the fever persisted until a few days later, when a quantity of pus was passed with the urine. The temperature now rapidly fell to the normal, the patient was convalescent in a short time and has remained well ever since. It is evident that I was right in my supposition, but the pus focus was situated in the anterior wall of the uterus below the reflexion of the bladder peritoneum, and thus escaped detection even with the abdomen open and the uterus explored with the aid of sight.

This case is illustrative of one class of cases in which we are justified in opening the abdomen and shaping our line of action by the conditions revealed; but in adopting such a course we must feel reasonably sure of our ground. In another case, observed about the same time, which ran a somewhat similar course, I could make out a thickening of the right iliac vein by bimanual examination and concluded that any operative interference would be unjustifiable. The patient finally got well after a very tedious illness, but without presenting any other local lesions.

There is another class of cases of uterine sepsis in which the question of hysterectomy has to be entertained. The patient has a septic endometritis or adherent placental tissue which has become infected. She has been curetted and treated in a proper manner, but the pulse and temperature remain high, the pulse probably being out of proportion to the temperature. On examination we find a large flabby uterus and nothing else in the pelvis to account for the unfavorable progress of the case. If the pulse persistently remain above 130 and local and general treatment is ineffective, we are justified, in my opinion, in opening the abdomen and removing the uterus unless, after opening the abdomen, we find some condition to change our plans. For instance, on opening the abdomen we might find a small abscess outside of the uterus which had

escaped our examination and which probably was the cause of the continued sepsis.¹

Within the past few years many who bitterly opposed hysterectomy for puerperal sepsis have modified or changed their views. It is now generally agreed that it is a justifiable procedure in certain cases, but many still hold that it is almost impossible to formulate the indications. From the very first time that I have treated the subject I have been keenly alive to the difficulties of formulating the indications for so radical a procedure. Increased experience has not lessened them. Each case must be carefully studied by itself. I have never had the courage, with but a single exception, to resort to hysterectomy without a careful personal observation of the case for twenty-four hours or longer. The exception was formed by a case with a partial inversion of the uterus with adherent placental tissue in a state of putrid decomposition. The patient was in a bad condition, having been deeply septicized since her delivery, nearly three weeks before. Although a major portion of the uterus, turned inside out, lay within the vagina, it was impossible to tell which was placental and which was uterine tissue. I removed the uterus piecemeal *per vaginam*, the technical difficulties being very great, as can readily be conceived, from the loss of the usual landmarks. The patient made a good and smooth recovery. The case presented a striking refutation of the statement frequently made that it is always possible to peel off adhering placental tissue with the finger or with the curette. My first case of hysterectomy for puerperal sepsis presented just such a condition. I was unable to remove the placental tissue with the curette while the uterus was *in situ*, and after the uterus was removed and cut open I was unable to peel it off with the fingers. Nevertheless, I was severely criticized at the time for my procedure, and to this day we hear echoes of that criticism.

I have never been able to comprehend the attitude of some of the opponents of hysterectomy for acute puerperal sepsis. Many of them are operators who do not hesitate to remove the uterus for chronic metritis and for what is vaguely termed cirrhosis of the adnexa, conditions which certainly are not a menace to life. But to rob a woman of her uterus when she is suffering from a disease which places her life in jeopardy is considered by these surgeons almost a crime. What logic! What consistency! After considerable experience in this direction, in whatever else I may be in doubt, in this I am not: no woman's chances of recovery have been lessened by my intervention of removing the uterus. A large percentage of the patients recovered,

¹In the discussion following the reading of the paper one of the speakers severely criticized the writer for the clinical way in which he treated the indications. The speaker gave his own very scientific method, which consisted, he said, in making blood examinations and when bacteria were found in the blood he operated! Certainly no one excepting perhaps the patient could find fault with the scientific accuracy of that method and it does not detract from its value as an accurate method by the circumstance that the patient invariably dies; according to the speaker's own frank admission all the cases operated on by him for acute puerperal sepsis have ended fatally.

and in those who did not recover the sepsis simply progressed as before and the patient lived apparently as long as she would have done had the uterus not been removed. Let me not be misunderstood. No one can feel more strongly than I the responsibility of removing the uterus and adnexa from a woman who is under forty years of age. This sense of responsibility has often made me guilty of hesitating and waiting until too late. As I look back upon some of the fatal cases that I have observed during the past two years, I feel morally certain I could have saved some of the patients had I been less solicitous of preserving their sexual functions.

In this connection it is well to reflect upon a feature frequently lost sight of in the discussion of this topic. We all hear of and see cases of severe uterine sepsis which recover apparently without any major surgical operation. Some of the patients remain well for an indefinite time. Others again, and the percentage is larger than is generally known, remain well for only a very short time. They fall into the hands of other operators, who find it necessary to do a radical operation. I will briefly cite one case in example. Over a year ago I was called in consultation to a case of severe uterine sepsis. I had the patient transported to the hospital for the purpose of observation and of performing hysterectomy if necessary. For several days her condition varied and more than once I was on the verge of interfering radically. But in the course of two weeks she showed manifest improvement; the uterus became smaller and her temperature was normal for several days. I began to look upon the case as an object lesson on the value of conservatism and perseverance in palliative measures. She left the hospital somewhat sooner than I desired; two weeks later I was again called to see her. She had had a return of chills and fever and I found the whole pelvis filled with a hard exudate in which it was difficult to map out the uterus. During her stay in the hospital there was not a trace of any exudate or any trouble with the adnexa. The woman remained very ill for a long time, was seen by many consultants and finally was subjected to a radical operation. All the poor woman gained by my solicitude for her sexual organs were months of great suffering, anxiety and heavy expense. I have seen several similar cases.

In a very small number of cases of uterine sepsis the infection spreads to one or the other tube, setting up a violent grade of salpingitis. This may occur at a time when we have reason to believe that the uterine sepsis has subsided. When such a contingency arises, it is, in my opinion, good practice to open the abdomen without delay and remove the affected tube. I reported a case of this kind a few years ago. I think I may venture the opinion that by my timely intervention I probably saved the woman's life. I certainly saved her from a long illness and probable destruction of the adnexa of the opposite side through the extension of the septic inflammatory

process. This woman has remained well and has since given birth to a child. In these cases immediate surgical intervention constitutes, I think, the highest form of conservatism or conservation of the woman's sexual organs.

When a uterine infection travels through the walls of the uterus and sets up a septic peritonitis, as it not infrequently does, we are justified in opening the abdomen and treating the case as one of septic peritonitis from any other cause. Irrigating and draining the peritoneal cavity would constitute the entire treatment in the minds of many operators. Having opened the abdomen, it seems to me, if the patient's condition permit it, the removal of the uterus, the *fons et origo* of the infection, and draining through the vagina, would give the best chances of a cure. I was able to save one patient by this procedure and I am not aware of any having been saved by mere irrigation and drainage. Of course, if gynecologists will operate in these cases when the patient is in *extremis* they will be doomed to disappointment and will bring only discredit to the operation.

In a large percentage of cases of puerperal sepsis starting from a wound in the vagina or cervix or from the interior of the uterus, large exudates will form in the pelvis or lower part of the abdomen. Some of these disappear entirely, but the largest number suppurate and break down into one large abscess cavity or, as is more frequently the case, into several purulent foci separated from each other by areas of exudate of considerable thickness. These cases come more strictly under the heading of chronic infection and do not rightly belong to my theme. Some of them, however, run a very acute course and unless promptly treated terminate fatally.

Every one is agreed that when pus is present free exit should be given to it and whether it is done through a vaginal or abdominal incision will depend upon the situation of the purulent collection. But whether we always do the best for our patients by remaining contented with mere incision and drainage is a question upon which considerable doubt has been cast in my mind by some experiences I have had during the past year. This, however, would open up a topic which would carry me far beyond the limit of my paper.

The points upon which I desire to lay especial stress are as follows:

1. Every case of puerperal sepsis is wound fever or wound infection and should be treated on the same general surgical principles applying to wound infection elsewhere.
2. Each case of puerperal sepsis, no matter how slight, should be carefully observed and watched from the outset, for we can never tell whether such a case may not develop into a serious infection which will be a menace to life.
3. When a case of uterine sepsis progresses unfavorably after curetting, irrigation and proper general treatment, as evidenced by the pulse, the temperature and the condition of the uterus, we

are justified in opening the abdomen and removing the uterus, unless, after opening the abdomen, we find some condition outside of the uterus to account for the persistence of the sepsis, or if we find some condition in the uterus itself, as a single intramural abscess or a localized gangrene, which would admit of removal without ablation of the whole organ, as in cases reported by Hirst and myself.

4. When a uterine infection extends to a tube or ovary, setting up a violent grade of salpingitis or ovarian abscess, the abdomen should be opened without delay and the affected tube or ovary removed.

5. When a uterine infection sets up a septic peritonitis the abdomen should be opened and the uterus ablated, the peritoneal cavity flushed with saline solution, and free drainage employed through the vaginal opening.

6. To operate for these conditions when the patient is evidently moribund is unjustifiable and can serve only to bring discredit upon the profession and upon the operation.

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LEUCOCYTOSIS AS A POINT OF PROGNOSIS IN APPENDICITIS.¹

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It is only within a comparatively short time that surgeons have begun to realize how much valuable information in the fields of diagnosis and prognosis can be obtained from an examination of the blood. Although the student of internal medicine long ago learned to attach much importance to the facts disclosed by such examination, the surgical side of the profession has maintained a rather indifferent or even skeptical attitude, assuming that data obtainable by other means at their command were sufficient to guide them in the management of their cases; they have regarded blood-work as something good enough in its place and probably of use to physicians, but unnecessary to the more or less skillful surgeon. As the result of this indifference, it has happened that hematology has occupied a place of minor importance in relation to surgical cases; and, too, the wide variance in the conclusions reached by the few investigators along surgical lines has had a tendency to throw discredit on the procedure as a whole. Yet enough has been done to remove all doubt as to how fruitful a field is offered for the investigation of the surgeon.

It seems to us to be the duty of all who have been making observations on the blood in its relation to surgical practice to place their results before the profession, in order that from a constantly-increasing number of facts progressively accurate conclusions may be drawn for future guidance. We therefore propose to offer the re-

sults of certain observations on the leucocyte-count as a point of prognosis in appendicitis, as noted in cases in the Calumet & Hecla Mining Company's Hospital from March, 1898, to November, 1901. We hasten to disclaim in advance any originality in our work, being well aware that many others have made and recorded similar observations; it is, as we have just stated, only for the sake of increasing the sum total of data relating to the subject that we submit our results.

It should be borne in mind that this article has to do only with the leucocyte-count as a point of *prognosis in appendicitis*. Undoubtedly, it has a value in other surgical diseases, but, as our observations have been most extensive in cases of appendicitis, we exclusively confine ourselves to this. Of its diagnostic value, likewise, we shall not now speak; that it has such a value, positive and definite, we consider to be now well established. Possibly too much has been claimed for this diagnostic value, and therefore, with some justice, experienced surgeons have resented the claims made for the new procedure, which, as was maintained by some, would supersede other means of diagnosis. But in the depreciation of its diagnostic value, surgeons have overlooked its value in prognosis and it is this phase of the subject that we here discuss.

The practice of making leucocyte-counts in appendicitis patients in the Calumet & Hecla Hospital was inaugurated in March, 1898, by Dr. E. H. Pomeroy, then chief of the hospital staff, who received from Dr. Cabot the suggestion that constituted our working foundation: "A high or increasing leucocytosis indicates a case of increasing severity, a low or diminishing count points to lessened severity." From that time the leucocyte-count has been a matter of routine in all cases of appendicitis, the number of counts made in each case varying from one to a dozen or more. As might be supposed, the early conclusions drawn from these counts were somewhat indecisive; but as the number of cases and of counts multiplied, our inferences assumed more definiteness, until they crystallized into a certain code which is now practically our guide of action in appendicitis cases and which we shall presently elucidate.

Our general principle is this, which is practically a reiteration of the dictum with which we started: The degree of leucocytosis is an index of the severity of the case; a high stationary or an increasing leucocytosis indicates a progressively serious case which demands immediate intervention; a decreasing leucocytosis, save in some exceptional cases, very few in number, to which special reference will be made points to a case of decreasing severity in which operation may be safely delayed if for any reason it be so desired.

This cardinal principle is the result of our observations in 124 cases of which we have hospital records and probably as many more externe cases of which no records are at hand. It is the

¹ From the Hospital of the Calumet & Hecla Mining Company.

result of this experience alone. Given the dictum to start with, we have worked out its truth for ourselves, with certain modifications and additions. We can cite no principles in its support, but base our belief in its correctness, as we confidently do, solely on experience.

Two things should be noted in this connection. First, we do not depend upon the leucocyte-count as an indication of the presence or absence of pus. Numerous observations on this point have been reported, and the conclusions show much variance. Now to us the presence or absence of pus seems an entirely unnecessary consideration. Pus does not kill; the damage is done by germs and their toxins which, in the course of their existence, stimulate the production of pus. The important thing to know in any given case is not whether there be pus present, but whether the morbid process be one of progressive virulence, in which the formation of pus, as a subsidiary incident, may have already occurred or may soon take place. Long before the period of pus formation there already exists, in many instances, an exceedingly dangerous condition; how important, therefore, to anticipate this dangerous condition, if it be possible, and check by an operation the virulent affection before the danger point is reached. Second, we keep aloof from the abstract proposition as to whether or not every case of appendicitis should be operated upon as soon as a diagnosis is made, although personally we believe that a patient affected with the disease should have an operation *as early as his case demands it and as the circumstances permit*. Undoubtedly there are cases which must be operated upon promptly in order that life may be saved; undoubtedly, too, there are others in which operation can be safely postponed. The question to determine is to which class any given case belongs. We understand thoroughly the truth of the proposition, so strongly insisted upon by surgeons, that no one can say at the beginning of any given case of appendicitis whether it will be mild or severe; but our observations on leucocytosis have led us to the conclusion that the blood-count furnishes a trustworthy indication as to the class in which each case, as it progresses, may be placed. It keeps us informed as to the progress of the disease; it gives us at any time in the course of the attack positive information as to whether the process be getting milder or more virulent, whether it be tending toward recovery without operation, or whether its seriousness be increasing to the point where an operation is demanded in the interests of the patient; and it gives us this information promptly enough to enable us to intervene if intervention be necessary. Leucocytosis gives us information as to whether the case may safely, so far as the existing attack is concerned, be treated medically, or whether surgical measures be essential.

We can best elucidate our proposition by stating briefly our usual procedure when called to a case of appendicitis. It may, however, be well

to explain first that the medical and surgical service of the Calumet & Hecla Mining Co. is practically free to its employees; that consequently they are in the habit of summoning a physician very promptly in any case of sickness; more so than would probably be the case in general practice when motives of economy might sometimes have an influence. As a consequence, we have an opportunity to observe most of our cases of appendicitis from the very first symptoms; and even those to which we are tardily called serve to strengthen our belief in our main proposition, as we shall explain later on.

When called to a case that presents the appearance of appendicitis, we make the usual examination and get the essential points of the history. If the signs, symptoms and history tend to establish a diagnosis of appendicitis, we at once made a leucocyte-count, and upon the result of this count much of our future conduct of the case depends. If this count be high, say above 16,000, and the symptoms of the case considered by themselves would be called severe, we urge an immediate operation. We consider that we have to do with a serious case which *may* at any time pass beyond the possibility of successful operative relief. If the count be between 13,000 and 16,000, and the symptoms moderately severe, we tell the patient that we recommend an operation; but if any strenuous objection be made, or the circumstances be unfavorable for operating, we say that we are willing to observe the case for a short time longer before deciding definitely. We then make another blood-count in from four to eight hours; if this count be materially higher than the first, say by 1,000 or more, we consider that the case is assuming a more serious aspect and insist upon immediate operation. But if the first count be less than 16,000 (supposing that we have seen the case from the very beginning) and the second does not show any increase, nor do any subsequent counts during the next forty-eight hours, our feeling is that we have to do with only a mild case in which the prognosis without operation is good for this particular attack. It is our practice, nevertheless, to operate on such cases in the first attack if possible, and thereby free the patient once for all from the danger of subsequent attacks; for our experience teaches us that if he pass successfully through one seizure, he is very apt to decline an interval operation, and will have nothing done until a second, and possibly less favorable, attack forces the issue. If, however, the patient or his friends demur, or if the conveniences for operation are not at hand, we do not strongly insist, being confident that the attack, with the continued low count, will terminate favorably. If the symptoms of a case be mild throughout and show no tendency to become severe, we still observe the leucocyte-count; if this remain low, we give ourselves no anxiety as to the outcome. Having once recognized the case as appendicitis we always recommend operation, but do not insist upon such immediate action as we would if

the blood-count showed a decidedly upward tendency.

Now suppose that in any given attack the usual signs and symptoms appear to indicate a marked diminution in its severity. If the first count be moderately high, say from 12,000 to 16,000, and the second or any subsequent count show a rise of say 2,000 or more, especially if there be an apparently continuous rise, we urge immediate operation, *regardless of the fact that the clinical symptoms appear to show improvement*. As this is a very important point in our proposition we should go into it more fully. Suppose, when first seen in the afternoon, our patient presents symptoms of appendicitis of moderate severity. There has been some vomiting, there is a temperature of 101° F., pulse 100, moderate rigidity of the recti, considerable subjective pain which is increased by pressure over McBurney's point—in short, symptoms of a moderate case. We take a blood-count and find it to be 14,000. Eight hours later the symptoms are the same and the leucocytes have remained at practically the first figure. Next morning the symptoms have materially modified; the temperature and pulse are lower, pain is less and, most of all, the patient feels much better. Ordinarily, without the count, we would say that the patient was improving and the attack would terminate favorably without an operation. But our count at this time shows 17,000. We count again in two or three hours and find it still increasing. At this point, no matter what the subjective feelings of the patient may be, no matter if his symptoms have entirely disappeared and there has come a feeling of perfect well-being and freedom from pain, we insist upon immediate operation. In such an instance we operate solely on the basis of the leucocyte-count, regardless of all other indications, and our experience, as we shall show in detail later on, seems to justify us in so doing.

There is another class of cases, fortunately very few in number, and for the most part easily recognized, in which a falling leucocytosis is a bad omen. They form a class parallel with those in which a falling temperature, far from being a favorable sign, indicates approaching dissolution. In both instances the concomitant symptoms are sufficient to render an error practically impossible. We refer to those cases to which we are called on the third or fourth day, or later, in which there is a history of a very severe attack and in which we find the patient practically in collapse; the even moderately-practised eye readily perceives that his condition is most serious, and that the apparent freedom from pain which often exists is but an ominous lull evidencing an increasing toxemia. It is a fact recognized by hematologists that it is only (speaking somewhat loosely) when an effort is being made by Nature to overcome disease that we find an increasing leucocytosis, and *per contra*, when from an ever-increasing toxemia Nature is forced to give up the struggle, there may be a progressive fall in the blood-count. In this class

of appendicitis cases, seen at a late period in their course, with a progressively-falling leucocytosis, the general conditions would be such that even the inexperienced could not be misled; and the lowering count would rather confirm than confuse if the point mentioned be borne in mind.

There is still another and somewhat puzzling class of cases, those to which we are called on the second and third day and in which we find a moderate leucocytosis, say 12,000 to 14,000, and moderately-severe clinical symptoms, subsequent counts at intervals of a few hours showing no material change. In such cases we have found it safer to insist on immediate operation. We are handicapped by not knowing what the count was during the first twenty-four or forty-eight hours. Under these circumstances, neither the clinical symptoms nor the count showing any improvement, though neither be specially severe, we have found it safer to operate, and in some instances we have found that intervention could not safely have been omitted.

So far as our principles can be put into tabular form they are somewhat as follows:

FIRST OBSERVED SYMPTOMS.	LEUCOCYTOSIS.	PROCEDURE.
Moderately severe.	High, say over 16,000.	Operate promptly.
Moderately severe.	Moderate, say from 12,000 to 16,000, but increasing on subsequent count.	Operate at once.
Moderately severe.	Moderate, but decreasing on second and subsequent counts.	Operation advised, but may be postponed with safety.
Moderately acute at first, but becoming less severe.	Moderate and decreasing.	Operation recommended but not insisted upon.
Moderately acute at first, but becoming less severe.	Moderate at first, but showing decided increase.	Operate at once.
Very severe and so continuing; following a history of severe onset, and with signs of increasing toxemia.	Moderate and decreasing.	Operate at once as the only chance.
Moderately severe, case not being seen until 48 hours or more after commencement of attack.	Moderate and stationary.	Operate promptly.

The figures given as indicating the varying degrees of leucocytosis are entirely arbitrary, but represent as well as figures can the standards that we have come to depend upon as the result of our experience. We recognize the absurdity of attempting to lay down a set of hard and fast rules that would be applicable to every case and to every surgeon as a guide of action in appendicitis. It would be manifestly absurd to assert arbitrarily that when the leucocyte-count rises above 16,000 one should operate, or that if it fall below 14,000 all danger is past. The determination of what may be called the danger line must come from personal experience and observation. In our own hospital, indeed, the standards of

leucocytosis vary from year to year as our experience widens. More important than any exact figures is the establishment of a system on which one teaches one's self to have a certain reliance. The general principle we believe to be entirely trustworthy; the figures given represent our standards; they may very properly be modified by other observations without at all assailing the truth of the underlying principle.

During the period in which we have been making our observations on leucocytosis as an aid to prognosis in appendicitis there have been treated in the hospital 124 cases in which we have records of the blood-count; probably as many more have come under our observation outside the hospital. During the first part of the period, when the principle was new, less dependence was placed upon it than at present; but for the sake of completeness the whole time is here included. To all these cases were the principles applied that we had laid down, and the results have been ample to justify us in having the confidence that we do in the value of our observations. The subsequent progress and outcome of all the cases demonstrated that the principle of leucocytosis could be depended upon; that is to say, in all of them that were operated upon, 110 in number, the condition of the appendix demonstrated that the operation was indicated. We do not mean by this that the operation showed that every case operated upon would have terminated fatally without intervention; we mean that a condition of the appendix was disclosed that showed the intervention to be warranted and essential to the patient's welfare. In the cases that survived operation, as most of them did, a subsequent history of freedom from the symptoms that had previously led to the diagnosis of appendicitis shows that the cause of the trouble was removed by the operation. It is probably true that the majority of these cases would have been operated upon without reference to the blood-count, since the clinical symptoms were sufficient to warrant it; but this in no way diminishes the value of the count as an indicator; since this corresponded in every case to the morbid condition found. But *many of the cases were promptly operated upon which would not have been so treated had not the count been in evidence*; these were cases in which for various reasons we would have been glad to delay operation for the time being and to treat "medically;" but the count decided the question and led to a prompt intervention which, in some cases at least, undoubtedly led to a saving of the patient's life.

Fourteen of our cases, owing to various reasons, were not operated upon. The nature of the blood-count throughout their respective courses made us confident of a favorable outcome without operation so far as each particular attack was concerned; and in none of them were we misled, since all progressed to recovery. Had the count at any time indicated a more serious condition, operation would have been insisted upon. These cases, it is true, were treated

"medically;" but with the medical treatment was associated a prognostic point that enabled the surgeon to assure himself from day to day, and even oftener, that the cases were progressing favorably, a feature that the "medical" treatment of appendicitis has usually lacked.

Eleven of our cases died. It is not within the province of this article to discuss the causes of these deaths; but some of them are interesting in their relation to our main point, *vis.*, the value of leucocytosis as an indicator of the patient's condition. To five of the fatal cases the physician was tardily called, on the third day or later, and found the patients already in *extremis*. It is fair to suppose that had these been seen earlier, and had the leucocyte-count been watched operation would have been performed in time and the patients saved. In another case the count indicated that an operation was demanded, but the patient declined it; subsequently giving his consent, it was found that the accepted time had passed, and the operation was unavailing. At any rate, so far as our point is concerned, the deaths prove nothing one way or the other; while at the same time the entire series of cases has convinced us that as an indicator of the intensity of the morbid condition the blood-count is to be relied upon.

Space does not permit our citing cases in detail to illustrate our points, but brief mention of a few will help make our proposition clearer. The following four cases were what would clinically be said to be of average severity, yet not with such severe symptoms but that a physician who was inclined to treat appendicitis conservatively would probably have delayed operation for one, two or three days. The blood-count indicated the necessity for immediate intervention and the issue showed this to be the wise procedure in each instance.

Case I.—Edward M., aged twelve years, first seen November 17, 1899, at 3 P. M. Had been complaining in the morning of pain in the lower part of the abdomen; vomited twice during the day. Tenderness and marked rigidity over McBurney's point; temperature 100° F., pulse, 80. Leucocytosis, 21,000. Patient was again seen at 7 P. M. The clinical symptoms were the same as before, but leucocytosis had risen to 23,000. Immediate operation performed. The appendix was found to be greatly thickened and enclosed in a mass of adhesions and at the distal end firmly wrapped in a portion of the omentum. Distal end greatly distended and on the point of rupture.

Case II.—Ernest A., aged twelve years, first seen September 23, 1899, at 9 P. M. The previous day patient had had some pain in the abdomen, but had not gone to bed, and on the day first seen was up and about the house until 5 P. M. Abdominal muscles extremely rigid and tenderness particularly marked over the appendicular region. Temperature, 100° F., pulse, 78. Leucocytosis, 21,000. Immediate operation performed. Appendix was found without difficulty

and seen to be much distended and on the point of rupture.

Case III.—Matthew G., aged twenty-one years, first seen at 10 A.M., May 31, 1900. Patient had been taken ill during the previous night with vomiting and general abdominal pain. Temperature, 101° F., pulse, 100. Pain and tenderness in the region of the appendix. Leucocytosis, 17,850. Patient seen again during the afternoon of the same day; clinically no change except that the tenderness was more localized and more marked; leucocytosis, 18,050. Operation advised in view of the increasing count. Distal end of appendix was buried in a large mass of omentum, the remaining portion being very firmly fixed by adhesions. Omentum containing distal end was resected and the appendix then removed in the usual way. Upon opening into the omental mass it was found to be filled with pus which had escaped from the ruptured appendix.

Case IV.—John C., aged twenty-one years, first seen in the afternoon of June 3, 1900. Patient had for some months been troubled with attacks of colic and spells of vomiting, but had never been confined to the bed. The present attack began on the night of June 2d, when he was seized with the usual attack of colic and vomiting to which he had been subject. He became steadily worse until the following afternoon when the physician was called. At this time the pain was very intense in the right side of the abdomen, where there was extreme rigidity. Temperature 101° F., pulse, 118. Leucocytosis, 19,950. Operation was advised, but refused. The following morning the pain was as marked as on the preceding day and the rigidity extreme. Pulse and temperature were the same; leucocytosis, 25,000. Operation was again advised and this time accepted. Proximal end of appendix was non-adherent; distal end freely movable but enclosed in a mass of omentum as in the preceding case. Omentum resected and appendix removed in the usual way. Distal end of appendix which was buried in omentum contained a large concretion. Walls of appendix markedly ulcerated and very thin.

If in any of these cases we failed to follow out our policy of immediate intervention in the presence of a high count, it was due to the fact that we were deterred either by the refusal of the patient to submit to operation or to some other untoward circumstances. Left free to act as we wished, intervention would have been undertaken promptly in each case. The following cases were milder still, clinically speaking, but leucocytosis pointed to a serious condition, and operation in each case showed the deduction to be correct.

Case V.—Anthony W., aged eight years, first seen August 9, 1899, at 4 P.M. Had been taken sick that morning with vomiting and colic. Temperature, 99° F., pulse, 80. No abdominal tenderness and no frank symptoms of appendicitis. Next day the temperature and pulse were the

same, but there was slight tenderness over the appendix; leucocytosis, 24,000. Immediate operation, which disclosed an appendix deeply buried in adhesions which were with difficulty broken up. The appendix was much distended with foul-smelling pus and at one place was on the point of rupture from ulceration.

Case VI.—Miss G., aged twenty-four years, first seen August 12, 1899, at 9 P.M. Patient stated that she had been taken sick the night previous with severe abdominal pain; had had no vomiting; pain had been relieved by an opiate and patient was up the next morning. At the time she was first seen by the writers, August 12th, there was some pain and tenderness over the entire abdomen, slightly more marked over McBurney's point. Leucocytosis, 24,000. Operation was advised and declined. The day following the temperature was 99° F., pulse, 90; pain and tenderness about the same; leucocytosis, 16,000. The third day the symptoms were the same, but the count had risen to 26,000. Operation was strongly advised and accepted. On opening the abdomen the appendix could not be found; the cecum was accordingly brought into the wound with a portion of the ileum, and the gut was found to be folded upon itself with walls firmly adherent, the pocket thus formed enclosing the appendix; the walls of the intestine forming this pocket were gangrenous; the entire portion was therefore excised and an end-to-end anastomosis was made with a Murphy button.

The most instructive points in the last two cases are the very mild symptoms accompanying such severe conditions in the abdominal cavity, and the fact that the leucocyte-count was the only criterion which could be followed with any degree of safety to the patient, at least by anyone who was inclined to be conservative. These cases would almost certainly have been treated medically by anyone who recognized such treatment as ever permissible. Still more forcibly does the following case illustrate the value of the count in pointing to a serious condition when every clinical symptom pointed to the patient's having practically recovered from the attack.

Case VII.—Sister A., first seen May 10, 1899, when she presented the symptoms of a rather mild attack of appendicitis. Temperature, 102.5° F., pulse, 140, leucocytosis, 16,000. The following day the clinical symptoms, mild at first, were even less severe. Temperature, 100° F., pulse, 112, and the idea of an operation was practically dismissed. The following day her temperature was normal, pulse 90, and so far as the feelings of the patient and the clinical symptoms were concerned the case was practically terminated; but a count was taken and a leucocytosis of 21,000 disclosed. On the strength of this count immediate operation was insisted upon. The appendix was found tense, full of pus, and without any adhesions to indicate the slightest attempt of Nature to wall off the purulent mass. The appendix had become so thin at one point

that after the operation, as the surgeons were preparing to open it for examination, it burst before the knife touched it, and was seen to be so thin at the point of rupture as to make it perfectly evident that had it not been removed when it was it would certainly have ruptured into the abdominal cavity within a couple of hours, sacrificing the patient's life; as it was, she made an ideal recovery.

The last case is the best illustration we can offer as to the value of the count in cases that clinically seem to be progressing to recovery; and it is in just such cases that it is especially valuable. There is another class of cases in which it may be desirable to postpone operation if it be possible and in which the count enables us to do so with a feeling of security. We have had several cases which we might use to illustrate this point, but space permits of our citing but a single one.

Case VIII.—Mrs. W., first seen at 4 A.M., July 13, 1901. At about 10 P.M. the previous evening the patient noticed general abdominal pain which she attributed to colic. Though not previously constipated she took an enema in the hope of relief. The bowels moved freely, but the pain continued to increase during the night, and when first seen at 4 A.M. she complained of its being general over the abdomen. Palpation revealed a very rigid right rectus and extreme tenderness on pressure over McBurney's point; temperature, normal; pulse, 80. At 7 A.M. a blood-count was made and the leucocytosis found to be 14,000. At 1 P.M. a second count showed a rise to 15,150. At this time an operation was plainly indicated and was proposed. For personal and family reasons which need not here be stated, the patient was very anxious to postpone operation if it could possibly be so arranged; we therefore adopted a waiting policy, much against our better judgment. At 7 P.M. the temperature had risen to 101° F., pulse to 104. A count made at this time showed a still further elevation to 18,000, and it was then decided, in spite of the patient's objections, that if the next count did not show a decrease we should proceed to operate. A fourth count was made at 11 P.M., and showed a slightly lessened leucocytosis of 17,500. Patient at this time was not suffering so much pain nor was tenderness quite so marked. The following morning the clinical symptoms were improved, and leucocytosis was still further diminished to 12,500. The following afternoon the count was 12,000; the patient was entirely free from pain and there was but slight rigidity of the rectus. The following day the count had fallen to 8,450, after which there was no further elevation, and the patient recovered rapidly. It is true that in this case we were running rather close to the danger line; yet the general course of the count made us reasonably confident that we were committing no error in warding off an operation.

Now, as to the value of this prognostic point in the general practitioner. On the one hand it

furnishes a danger signal to that class of physicians who are inclined to treat their cases of appendicitis expectantly, and in this class we suspect are to be found a very large number of the profession. The leucocyte-count, properly interpreted, will give them information as to when their conservative methods can no longer be followed with safety, and furnishes a most trustworthy index as to the real condition of the patient, whatever his signs and symptoms may appear to show.

On the other hand, no matter how strong an advocate of intervention the attending physician may, on general principles, be, it is a fact that there frequently occur cases in which the avoidance of an operation is very desirable. We remember to have had a letter some months ago from a surgeon of wide experience with appendicitis (Dr. R. T. Morris) in which he stated that he had not made use of the blood-count because when once he had diagnosed a case he operated promptly without permitting any excuse or delay. It may be well in theory to adopt such a course of action, but practically many things may interfere with its successful execution. The bad environment of the patient; personal, private and business reasons on his own part or that of his family for desiring to avoid the risk of an operation, however slight; pregnancy or recent childbirth; the presence of some other disease; business engagements which would render prolonged detention at home a calamity; any of these reasons, as well as many others which the practitioner can readily supply from his own experience, may make it extremely desirable that an operation be avoided for the time being. Then, too, appendicitis is not confined to the cities, where the facilities for properly handling it are more easily obtainable; it flourishes vigorously in country districts as well, and no one understands better than the country practitioner the difficulties that stand in the way of immediate operation for appendicitis. The lack of conveniences and of necessary assistants, especially in sparsely-settled communities, make such immediate operation almost impossible. It is in such cases as these that the value of the leucocyte-count is most marked. Although we recognize fully the truth of the proposition that has been enunciated by our leading surgeons until it has become axiomatic that at the beginning of a case of appendicitis no one can say with assurance how it is going to end, yet our experience with our series of cases has taught us that a close observation of the leucocyte-count suffices to keep us accurately informed as to the progress of the case from day to day or even from hour to hour. If the tendency of any given case, as shown by the count, be such that an operation is demanded, then an operation may be insisted upon regardless of circumstances; otherwise—that is, if the count indicates a lessening severity—operation may be safely deferred, if conditions or circumstances render a postponement desirable. An observation of the leucocyte-count does not imply

that no operation will be performed; it merely means that in those cases in which we wish to avoid operation we will intervene if obliged to, and while awaiting the necessity will prepare for it; but if the leucocyte-count remain low we may let the case proceed without operation, confident that the outcome will be favorable.

Summary.

1. The leucocyte count is a valuable aid to prognosis in appendicitis.
2. This is distinct from its diagnostic value.
3. A high stationary, or an increasing, count indicates a morbid condition of increasing severity which demands operation, no matter what the clinical symptoms may be.
4. A low stationary or decreasing count indicates that the severity of the case is abating and that operation may be safely postponed. Cases in which a falling count is accompanied by unmistakable signs of a generally bad condition form the rare exception to this second principle, and in them there is no chance of error.
5. No arbitrary set of prognostic values to be assigned to various degrees of leucocytosis can be constructed. The important point is to follow any scheme in which one learns to have confidence, provided the essential principle be preserved.
6. The count indicates when operation should be performed for the best interests of the patient.
7. Circumstances often render it desirable to postpone operation in appendicitis. Study of the blood-count enables it to be determined whether this may be done with safety and often renders such postponement permissible.

THE PNEUMATIC PROCTOSCOPE.

BY JAMES P. TUTTLE, M.D.,
OF NEW YORK.

IN examinations of the rectum and sigmoid, surgeons have frequently met with certain obstacles which prevented complete diagnosis. The securing of a proper light was first overcome by the introduction of reflectors and finally by the electric lamp. The examination of the upper limits of the rectum and sigmoid was accomplished by the introduction of the Kelly tubes and the application of atmospheric inflation to the rectum.

In order that these methods may be successful two things are necessary: (1) The patient must be maintained in the knee-chest posture; and (2) the gut must be inflatable by the force of atmospheric pressure. The knee-chest posture is not only embarrassing, but very tiresome to most patients, and retention in this position sufficiently long to permit a complete examination is in many cases almost impossible; while in a certain number of cases atmospheric pressure either fails entirely to dilate the rectum or ceases to act about the juncture of the rectum and sigmoid, and therefore examination above this point is practically limited to the surfaces of the gut which collapse over the end of the sigmoidoscope.

Efforts to overcome these difficulties have been made at various times and with greater or less success. The Pennington, Laws and Beach tubes are all ingenious instruments devised for these purposes, but are open to certain minor objections which the present instrument is intended to overcome. The writer is indebted to all these gentlemen for their useful suggestions in the perfection of this instrument.

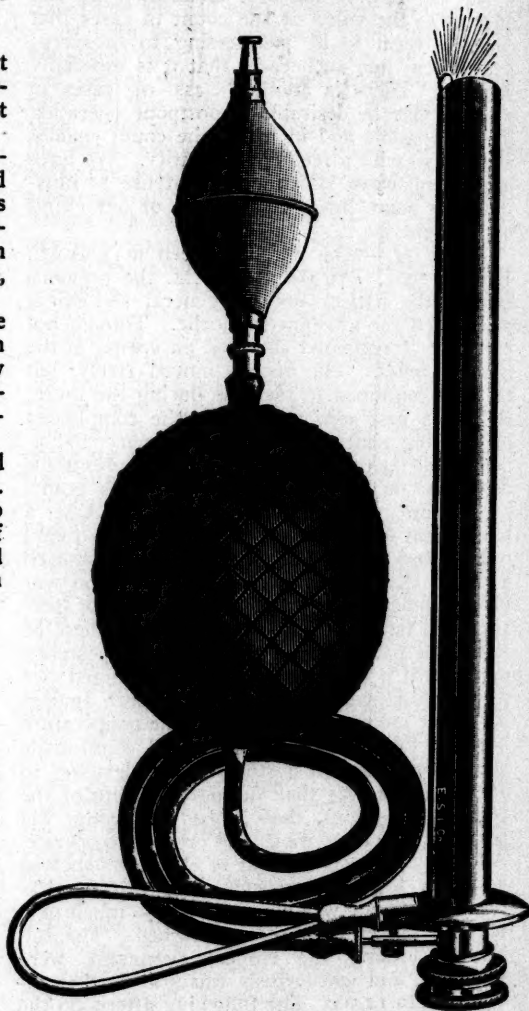


Fig. 1. Ordinary ten-inch tube.

The proctoscope presented in Figs. 1 and 2 consists of a large tube, twenty-one millimeters in diameter, on the outside of which is run a small tube which carries the lamp and is closed at its distal end by a spherical glass bulb which prevents the electric lamp from coming in contact with the tissues and thus avoids any heat or burning. The larger tube is fitted with an obturator which makes it possible to introduce it through the anus with but very little pain. The glass

window or eye-piece is inserted in a metal plug which fits in the proximal end of the large tube through conical ground bearings. The large cylinder is connected with a hand-bulb by a small metallic tube, through which air is pumped into

teen-inch tube is furnished with a flexible obturator giving it a Mercier curve at the end, which in certain cases of acute flexure of the sigmoid facilitates its introduction. The light is furnished by a six-cell dry battery weighing about twelve pounds and easily portable.

In the use of this instrument the patient is placed in the Sims posture; the finger is introduced through the anus and, with the glass bulb pressing upon its palmar surface, the tube is slipped through the sphincters. After this the obturator is withdrawn, the plug introduced into the proximal end of the tube, and the rectum distended by pressure upon the hand-bulb so that its walls are lifted out of contact with the distal end of the tube, which can then be carried upward into the gut without any abrasion or traumatism of the mucous membrane. The caliber of the gut being well distended in front of the instrument, its direction can be clearly seen at all times, and any pathological changes, abnormal narrowing or acute flexure can be determined. The entire circumference of the gut can be seen at any point, and the whole extent of the sigmoid can be as thoroughly examined as the lowest portion of the rectum. The light, being at the inner end of the tube, directly illuminates the parts for three or four inches above its extremity. In the long tubes the eye-pieces are fitted with magnifying lenses which enable one to make a more accurate diagnosis.

The advantages of the instrument are:

- (1) It does not require any uncomfortable position of the patient for its employment.
- (2) The lamp is outside of the main tube and thus does not obstruct the view in any manner.
- (3) The descent of feces into the tube does not obstruct the light nor require its removal. The plug can be taken out and the tube cleansed by the introduction of small cotton wads held in long dressing forceps, without any material delay in the examination.
- (4) The plug containing the eye-piece is easily and quickly adjusted through the ground joint.

The instrument is made by the Electro-Surgical Instrument Company of Rochester, N. Y.

42 West 50th Street.

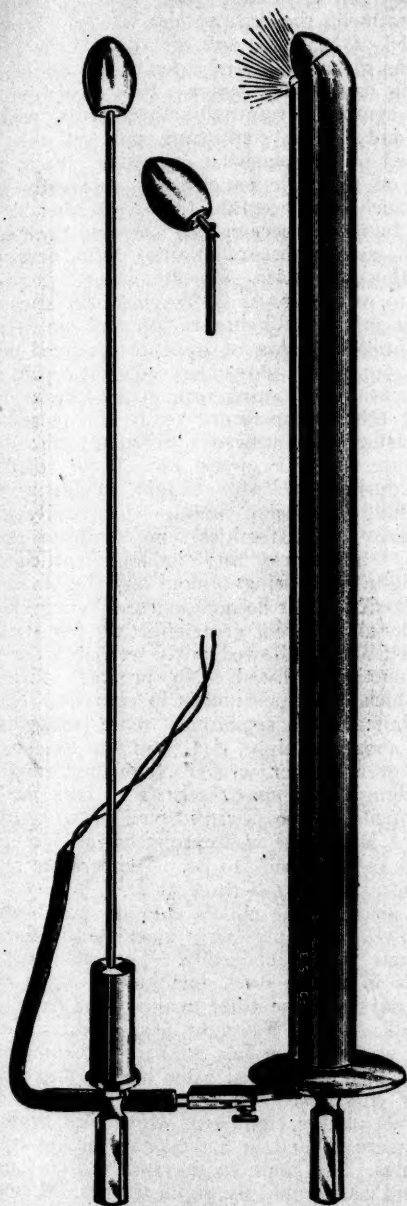


Fig. 2. Fourteen-inch tube with flexible obturator producing Mercier curve.

the rectum or sigmoid, thus dilating the same to any desired extent.

The tubes vary in length from four to fourteen inches. For the general practitioner the ten-inch tube will serve all practical purposes. The four-

teen-inch tube is furnished with a flexible obturator giving it a Mercier curve at the end, which in certain cases of acute flexure of the sigmoid facilitates its introduction. The light is furnished by a six-cell dry battery weighing about twelve pounds and easily portable.

THE ANTIRABIC VACCINATIONS AT THE NEW YORK PASTEUR INSTITUTE DURING 1900 AND 1901.

BY GEORGE GIBIER RAMBAUD, M.D.,
OF NEW YORK;
DIRECTOR OF NEW YORK PASTEUR INSTITUTE.

DURING the years 1900 and 1901, 750 patients were received at the New York Pasteur Institute. Of these 513 were bitten by dogs which were found not to be rabid for at least one week after the accident, and did not receive the Pasteur treatment; 237 received the treatment. Six patients were treated at the St. Louis Pasteur Institute, which was opened in December, 1900, to work in coöperation with the New York In-

stitute, under the direction of Dr. C Fisch. Of these 243 persons, 3 died, 2 within fifteen days after the treatment and are not included in the statistics. So that there were 241 persons treated, with one death, or a mortality of 0.41 per cent.

In the following table these figures may be compared with those of the statistics for the preceding years:

Year.	Persons Treated.	Died.	Mortality. Per Cent.
1890.....	169	0	0
1891.....	160	2	2
1892.....	104	0	0
1893.....	85	0	0
1894.....	89	1	1.12
1895.....	167	2	1.10
1896.....	236	0	0
1897.....	133	1	0.74
1898.....	125	1	0.80
1899.....	159	2	1.25
1900 and 1901.....	241	1	0.41

Of these 241 persons treated, 33 were bitten on the head, 162 on the hands and 46 on other parts of the body. In 88 cases the animal having inflicted the wounds was proved rabid by experimental inoculation, or by having caused the death of other persons or animals which it had bitten (Table A). In 60 cases the animal was declared rabid by veterinary examination (Table B). In 93 cases the animal had disappeared or had been killed after having acted in such a manner as to lead one to suspect hydrophobia (Table C). We may add here that patients are admitted for treatment only when there is strong evidence that the animal which bit them was rabid, and that in about 90 of the aforementioned 93 cases the animal had shown nearly all the clinical symptoms of rabies before disappearing or being killed.

The figures may be tabulated as follows:

	Bitten on the Head.			Bitten on the Hands.			Bitten on Limbs.			Total.		
	Treated.	Died.	Mortality. Per Cent.	Treated.	Died.	Mortality. Per Cent.	Treated.	Died.	Mortality. Per Cent.	Treated.	Died.	Mortality. Per Cent.
Table A.....	13	1	7.69	62	0	0	13	0	0	88	1	1.13
" B.....	7	0	0	47	0	0	6	0	0	60	0	0
" C.....	13	0	0	53	0	0	27	0	0	93	0	0
	33	1	3.03	162	0	0	46	0	0	241	1	0.41

Of the six cases treated at the St. Louis Pasteur Institute, all belonged to Table A; 2 were bitten on the head, 2 on the hands, and 2 on the limbs. There was no death among these cases.

Persons who Died of Rabies Within Fifteen Days After the Treatment.

Case I.—W. M., seven years old, of Greenwood Depot, Va., was bitten on December 31, 1901, by a dog which had shown the clinical symptoms of rabies. Had two scratches on right cheek, near the right lower eyelid, which had bled very little, and one deep cut near the right corner of the mouth which penetrated nearly to

the buccal mucosa; this wound had bled profusely. All wounds were swabbed with pure carbolic acid about half an hour later. The boy was brought for treatment on January 6, 1901, and was treated during twenty-three days from January 6th to January 28th. On the tenth day of treatment, the little patient was sad; he complained of headache and his appetite was poor; he was given a dose of calomel and on the following day he felt better. Five days later the same symptoms returned and yielded to medication and a little comforting talk, as the boy seemed to be somewhat homesick. From that time on the little patient was apparently well, but much less cheerful. One week after his return home he became ill, showing symptoms which, rather obscure at first, soon developed into those of rabies. The following history was sent to us by Dr. A. B. Wayland, the attending physician: "On February 4th and 5th Wesley had headache, loss of appetite; vomited once; cried out in his sleep; had epigastric pain and an occasional shooting pain in the larynx. February 6th: temperature 101.6° F., pulse 100; increasing nervousness. February 7th: temperature 103.5° F., pulse 120; history of delirium during the whole night. February 8th: twitching of facial muscles; convulsive contractions of extremities (no complete remissions); hoarseness and indistinct articulation by night. On being offered anything to drink, the clonic spasms became markedly exaggerated, but, by an apparent great effort the boy steadied himself and swallowed fairly well until the end. Conjunctiva suffused. No profuse salivation, but thick, tenacious mucus in pharynx. February 9th: Same symptoms, more exaggerated until about midnight, and from that time on patient grew quieter, weaker; slight muttering and twitching; *took nourishment well until just before death*, which occurred on February 11th at 8.30 A.M. Pulse was extremely variable—from 60 to 120 and back to 80. Temperature record not accurate for last three days."

A piece of the child's medulla was obtained and two guinea-pigs were inoculated in the eye, and one rabbit subdurally. The rabbit died of rabies in fifteen days, one guinea-pig in eighteen days and the other in thirty-five days.

Case II.—E. E., eight years old, of Jersey City, was bitten on July 29, 1901, by an unknown dog which was killed after having bitten three other children. The boy had two very deep wounds on the right arm which bled profusely and were treated in a hospital within twenty minutes. He came to the Institute on August 2d and was treated for eighteen days, till August 19th. The boy was at all times quite nervous (*he had had chorea three or four years before*) and was in poor health. Toward the end of the treatment he was rather more excitable than usual. On August 24th, five days after the end of the treatment, he was brought back by his mother; he showed marked symptoms of hydrophobia. His right arm was partially paralyzed

and the boy complained of his legs being weak. Temperature 103.5° F.; pulse 142. On August 25th the right arm was completely paralyzed and the right leg had also reached a marked degree of paralysis. Death occurred on August 26th at 7:30 A.M., seven days after treatment.

On September 19th one of the three children bitten by the same dog died of rabies in Jersey City. The other two children were brought to the Institute on September 23d, were treated during twenty-three days and are well at the present writing (six months after accident, four months after treatment). They are the subject of a remark in another part of this report.

From experiments made upon dogs, we may draw the conclusion that the nervous centers of persons who die of rabies within fifteen days following the end of the treatment have been affected by the rabic virus before the treatment could have exerted its full effects. Therefore, the two patients just mentioned may be considered as not having received the treatment and are not included in the statistics.

Died After the Treatment.

D. K., seven years old, of New York City, was bitten on June 13, 1901, by a dog which was killed a few hours later. The girl had three cuts on the face; one on the lower lip, one on the nose and one just below the left eye; all wounds had bled freely and were cauterized with nitric acid within fifteen minutes. The little patient was treated during twenty-three days, from June 14th to July 6th. She developed symptoms of hydrophobia on August 29th and died on September 1st.

Remarks on the Diagnosis of Rabies in Dogs.

In about 50 of the 88 cases of Table A, the diagnosis of rabies in dogs was made by the microscopical examination of some of the cerebrospinal ganglia of the animals, after the method of Van Gehuchten; this was in every case supplemented by experimental inoculation. The histological diagnosis has the great advantage of giving a result within twenty-four hours. Our technic is as follows: Fixation in Van Gehuchten's fluid (acetic acid, 1 part; chloroform, 3 parts; absolute alcohol, 6 parts); or in Zacharias' fluid (acetic acid, 1 part; alcohol, 4 parts; one-per-cent. solution osmic acid, a few drops); followed by absolute alcohol frequently changed till the reaction is no longer acid. [In the above formulae, and for dehydration, *synthol* has also been used instead of alcohol, and with good results.] As a rule, we secure both the right and left vagus ganglia and embed one in paraffin and, the other in celloidin, the former method being somewhat more rapid. For embedding in celloidin we now use almost exclusively Gilson's method, modified by Lee, which does away with preserving the specimens in alcohol and allows dry cutting.

The specimens are stained according to Nissl's

method or Held's modification of it. We also use in every case the following method, which gives a very clear picture of the round-cell proliferation: (1) Staining with Delafield's hematoxylin, or better with Mayer's acid hemalum; (2) after proper washing, the specimen is stained with Van Gieson's strong solution (picro-acid-fuchsin).

In all but one of the ganglia thus examined the characteristic lesions of rabies were present to a greater or to a lesser degree; the diagnosis was confirmed in every case by inoculation. In the one negative case, the result of the inoculation was also negative. In a number of cases the dogs had been killed immediately after biting the patient, and thus the lesions varied in intensity. As a rule, the period of incubation in the inoculated animals was correspondingly shorter or longer. In most of the cases in which the dog had been killed early in the disease, the changes in the ganglion cells were very slight and might have passed unnoticed; but, the proliferation around the nerve-cells was usually characteristic and was well brought out by the hemalum-picro-acid-fuchsin stain, whereas it had escaped observation with Nissl's method.

With regard to these variations in the intensity of the lesions and the value of the histologic diagnosis, we can do nothing better than quote Nocard's words: "When the result is positive—which is the rule when the dog dies of the disease—it can be stated positively that the animal was rabid; but when the result is negative—which is frequent when the dog is killed as soon as it has bitten—one has no right to affirm that the animal was not rabid; the diagnosis remains uncertain, and the strict duty of the veterinary surgeon is, now as well as in the past, to advise the bitten person to go to the Pasteur Institute."

Among the clinical symptoms upon which we usually establish the diagnosis of rabies, as in the cases referred to in Table C, are the following:

1. Change in the disposition of the dog.
2. Unusual manifestation of attachment to its master.
3. Disappearance from its home for from several hours to two days.
4. Change in the bark—or total absence of barking, even on provocation.
5. Lack of appetite, difficulty in chewing and swallowing solid food.
6. Excitement and hallucinations; animal snaps at imaginary objects, may attack its own master. Excitement caused by the sight of another dog. (This stage may be absent in the dumb form of the disease.)
7. Animal eats its own bedding, tears cushions, carpets, etc.
8. Inability to eat; animal takes food in mouth, but it drops out after one or two attempts at swallowing; drinking, however, is little or not interfered with and there is no hydrophobia.
9. Unsteady gait, which shows the beginning of paralysis of hind legs. Dilated pupils.

10. Later; paralysis of lower jaw, general paralysis.

Remarks on Treatment.

The treatment is nearly the same as that used in Paris. The only modification, adopted within the last two years owing to the large number of severe cases with which we have to cope,¹ is that we begin with the cord of the twelfth day and that we use the cord of the second day in every case. In ordinary cases, coming for treatment within one week after the accident, the treatment is given during eighteen consecutive days; when a delay of more than a week has occurred, the length of treatment is twenty-one days. In all cases of bites on the head and also when patients come to the Institute more than two weeks after having been bitten, the treatment is given during twenty-three days or more, and twice for the first two days.

In a few severe cases a special treatment was given, and it may not be amiss to go into a few details:

Case I.—C. D., ten years old, of Rochester, N. Y., was bitten on February 26, 1901, by a dog which died of rabies on March 2d. The diagnosis was made by Dr. Goler, of Rochester, who reported that "the cellular changes were most characteristic in the jugular ganglion." The boy had a deep cut just above the right eye; it had bled freely and had been washed with water; it was treated by a physician half an hour later. The young patient was brought to the Institute on March 8th, ten days after the accident. On March 11th, the fourth day of treatment, he complained of headache; he had had a little fever during the night. At 11 A.M. he received the regular treatment, which consisted in the hypodermic injection of 4 c.c. of emulsion of the seventh-day cord. At 4 P.M. he was given, in addition, an intravenous injection of 3 c.c. of the same emulsion. On the following day the treatment was identical, with sixth-day cord. For three days he thus received in the morning the ordinary treatment, and in the afternoon an intravenous injection of the same emulsion. On the seventh day of the treatment all symptoms of malaise had disappeared and the intravenous injection was omitted. On the eighth day in the morning a subcutaneous injection of 4 c.c. of emulsion of fifth-day cord; in the evening an intravenous injection of 3 c.c. emulsion of fifth-day cord. On the following day the boy's mother reported that he had been somewhat restless and feverish during the night. The intravenous injections were then omitted for two days and resumed every second or third day till the end of the treatment, which lasted twenty-three days, ending on March 30th. The most virulent intravenous injection was that of the fifth-day cord used on the eighth day of treatment. Thereafter emulsions were used of the

sixth and seventh-day cords even when third or second-day cords had been used in the morning. The headache and general malaise did not reappear after the eighth day of treatment and the boy has remained well ever since.

Case II.—F. S., four years old, of Brooklyn, N. Y., was bitten on May 6, 1901, by a dog which had shown clinical symptoms of rabies. The boy was brought to the Institute on May 8th; he had six wounds on the face, one on the nose, two on the upper lip, one on the left cheek, one on the right cheek and one under the chin. All wounds were deep and had bled profusely; they had been cauterized with nitrate of silver about one hour later. Treatment was begun on May 8th and given uninterruptedly till May 30th. For the first seven days the boy received daily an intravenous injection of 3 c.c. of emulsion; from twelfth to fifth-day cords were used. Emulsions of cords 5 to 3 were given subcutaneously, and on the fourteenth day intravenous injections were resumed till the nineteenth day. During the last five days the boy received the emulsions of fourth, third and second-day cords in the ordinary way. At no time was there any ill effect following the intravenous injections, save, perhaps, after the first injection of sixth-day emulsion, and the first injection of fifth-day emulsion; on the following days the boy was then reported to have been a little restless and feverish during the night.

On June 6th the little fellow was brought back; he had complained of a little headache on the previous day, and his appetite had been poor; he had vomited once. He was treated again for five days, receiving tenth to fifth-day emulsions; he was then discharged well and has been well since.

Cases III and IV.—N. B., nine years old, and R. K., nine years old, of Jersey City, were bitten on July 29, 1901, by a dog which bit two other children; one, E. E., died of rabies on August 26, the other on September 19th. The girl had received two wounds on the left infrascapular region, through a light dress; one of them was very deep, penetrating the muscles. The wounds had bled moderately and were treated half an hour later. The boy had two deep wounds on the dorsum of the left hand; they had bled profusely and had been treated at the same time as those of the girl. Both children were brought to the Institute on September 23d; for a few days the boy had complained of pains in the back of the head and neck and in the lower limbs. The treatment was given for twenty-three days, till October 15th. During that time each one of the two children received twenty-five subcutaneous injections of from 2 to 3 c.c. of the usual emulsions. In addition they were given on certain days and at the same time as the regular treatment an intravenous injection of 2 c.c. of the same emulsion, the most virulent emulsion thus used being that of the fourth-day cord, on the fourteenth and eighteenth days of treatment; the emulsions of the third and sec-

¹ In fact, by comparing our statistics with those of all foreign antirabic Institutes, it may be seen that our proportion of cases belonging to Table A is high, that the percentage of cases of bites on the head is relatively great, and that patients often come to us several days only after they have been bitten.

and-day cords were used only subcutaneously. The intravenous injections (nine for each) were made in the cephalic, basilic, median cephalic and median basilic veins.

Of course, in all these cases, the emulsions used intravenously had been so prepared that no macroscopical particles of nervous substances could be thrown into the circulation.

As we are simply reporting cases, we will not enter into any discussion regarding the present application of these intravenous injections, which have been used abroad somewhat differently in a few cases;¹ we can only state facts. But, we may add that, if in the above four cases the intravenous injections did no particular good, they certainly did no harm and we must confess that, until their inefficacy is asserted and proved, we will feel strongly inclined to use them in similar cases. [They have proved useful in veterinary prophylaxis.]

Persons Not Treated who Died of Rabies.

In 1900 and 1901 six cases of human rabies came under our observation, in addition to the three cases in which treatment was given. Three of these cases have already been reported (Bull. Pasteur Institute, Sept., 1900); the other three are here related.

Case I.—J. K., forty-five years old, of Hastings, N. Y., came to the Institute on December 3, 1900. He had been bitten three months before by a dog which had been shot about eight days later on account of suspected rabies. He had received two cuts on the nose and one on the chin; the wounds had not bled and were not treated. A few days before calling on us the patient felt pain in the parts of his face where he was bitten, but paid little attention to it. On Saturday, December 1st, the pain had extended to the back of his neck, and it gradually increased till it prevented sleep. On December 2d the patient had much difficulty in swallowing a cup of coffee; within a few hours, in spite of strenuous efforts, he could not swallow anything. On December 3d, at 9 P.M., when we saw him, his pupils were dilated and he had marked hydrophobia and aerophobia. He was taken to St. Vincent's Hospital. On December 4th he was delirious and toward evening sank into a state of stupor; he died at 3 A.M., December 5th. Two guinea-pigs were inoculated with his medulla, one subdurally, the other in the anterior chamber of the eye; both died of rabies in seventeen and twenty-one days respectively.

Case II.—On October 19, 1901, we were called in consultation to see H. K., two and one-half years old, of New York City. The little girl had not been well for a day or two. On the day before she had shown some difficulty in drinking and in the morning hydrophobia was present. When we saw her, she exhibited well-marked symptoms of rabies. Upon inquiry we found that she had been bitten on the face nine months

before, in January, while playing on the street, by an unknown dog which had immediately disappeared. The little patient died on October 22d. The period of incubation, in this case, had been unusually long, considering the age of the child and the location of the wounds.

Case III.—L. D., two and one-half years old, died at the New York Foundling Hospital on September 25, 1901. No history of dog-bite could be obtained, but the child showed well-marked symptoms of *paralytic rabies* when we saw him, on September 24th. He bore on the forehead a scar which could not be accounted for. Dr. Bovaird, Pathologist to the Hospital, is writing the history of the case; *the vagus ganglia*, which he kindly left at our disposal, *showed the characteristic lesions of rabies*. With a piece of medulla one guinea-pig was inoculated in the eye and a rabbit subdurally. The guinea-pig died of rabies on October 8th, the rabbit on October 12th.

Two cases were seen in St. Louis by Dr. Fisch; both were children who died of *paralytic rabies*. In one case the autopsy was made. The lesions in the spinal ganglia were very characteristic, whereas those of the spinal cord, described by Babes and others, were, according to Dr. Fisch, entirely insufficient to establish a diagnosis.

To the above we must add two cases which came to our knowledge through patients treated:

Case IV.—J. R., forty-three years old, a miner, of Throop, Pa., came for treatment on September 16, 1901. He had been bitten on the right forearm on July 20th (eight weeks before) by an unknown dog which bit another man, also a miner, and several animals. The animal had developed rabies and died. *The man died of rabies in five weeks*. We could not obtain any details of his case. When R. came to us he had suffered from headache and nausea for two days; this is what had decided him to come for treatment. He was treated for twenty-three days (till October 8th) and is well at the present writing.

Case V.—H. C., thirteen years old, of Peckville, Pa., was bitten on the left hand on October 31, 1901, by an unknown dog which, a few minutes before, bit a little girl five years old; the little girl was bitten through her skirts. C. was treated for eighteen days, from November 4th to November 21st. He is well. *The little girl died of rabies on December 11th*.

The following cases have been gathered from the daily press. We have taken only those in which physicians had made the diagnosis of rabies.

Case I.—"Greensburg, Pa., October 2, 1900. John Smithley died yesterday from the effects of being bitten by a rabid dog five weeks ago. A little daughter of Frank Seaton is dying from wounds received at the same time, from the same dog."

Case II.—"El Paso, Texas, November 4, 1900. Silas Carson, a prominent Arizona ranchman,

¹ Murri, Bologna, March, 1892; De Blasi-Russo-Travali, Palermo, Ann. de l'Inst. Past., 1896.

died of hydrophobia at the Sisters' Hospital this morning. The disease was the result of a skunk-bite received on the hand three months ago."

Case III.—Joseph Kurey, fourteen years old, of Three-Mile, Ohio, died of hydrophobia on November 16, 1900; he was bitten on the face and legs four weeks before by a strange dog.

Case IV.—"Warsaw, Ind., November 21, 1900. Samuel George, a farmer, is dying of rabies. He was bitten in September on the right hand by a strange dog."

Case V.—"Chicago, December 3, 1900. After five days of terrible suffering, Mrs. Antonio Mastate, fifty-four years old, died last night of rabies at the County Hospital. She had been bitten by a stray dog three weeks ago."

Case VI.—"Shenandoah, Pa., December 5, 1900. James Lawlor, twenty-four years old, of Brownsville, died this evening of hydrophobia. He was bitten by an unknown dog about ten weeks ago."

Case VII.—"Greenup, Ill., December 4, 1900. Great uneasiness is felt here over an outbreak of hydrophobia. At Teutopolis, twenty miles west of here, one death has occurred."

Case VIII.—"Belleville, Ill., December 22, 1900. The bite of a dog, inflicted nine months ago, caused the death in agony last night of Valentine Lehr, twelve years old, of Hecker. The wound had healed and the boy felt no ill-effects from the bite until last Monday, when he was taken ill while at school."

Case IX.—"Zanesville, O., January 4, 1901. Ralph Stullar, four years old, of Dresden, died this morning of hydrophobia. The child was bitten by a rabid dog eight weeks ago." [This child was treated at the Chicago Pasteur Institute but was sent there too late—not until one rabbit inoculated with a piece of the dog's brain had died of rabies.]

Case X.—"Louis E. Cook, of Rochester, N. Y., died of rabies on February 10, 1901. He was bitten on December 5th by a dog which Health Officer Goler proved to be rabid. The man was advised to undergo treatment, but thought it unnecessary."¹

Case XI.—"Greensburg, Pa., February 28, 1901. Harry Sheibler, eighteen years old, died to-day of hydrophobia. With several other persons he was bitten by a mad dog some months ago." [See Case I.]

Case XII.—"Pottsville, Pa., March 9, 1901. Joseph Kepley, fifteen years old, died at the Pottsville Hospital to-day of rabies. He was bitten on the face by a dog four weeks ago."

Case XIII.—"Shamokin, Pa., March 29, 1901. George Hoover, ten years old, is dying of hydrophobia. He was bitten by a rabid dog nine weeks ago."

Case XIV.—"George Smith, seventy-five years old, of Plainfield, N. J., died of rabies at the General Hospital of that town on April 22, 1901. He was bitten two months before on the

chin and shoulder by a strange dog which was shot immediately after."

Case XV.—"Casimir Lemke, seven years old, of Chicago, died of rabies on April 26, 1901. He was bitten on the head on March 15th by a dog which was killed on the same day."

Case XVI.—"Allan Gray Landon, eleven years old, of Niles, Mich., died on April 27, 1901, after three days' illness; he was bitten by a dog one month before."

Case XVII.—"Portsmouth, O., May 8, 1901. Henry Hurst, a prominent farmer of this county, died Tuesday night of hydrophobia, after three days of horrible suffering. Six weeks ago Mr. Hurst was bitten by a supposedly mad dog. His right hand was badly lacerated. He was taken to an adjoining county and a famous 'mad stone' was applied to the wound. The stone clung to the wound for forty-four hours and it was thought by those having faith in the 'mad stone' that this was a great victory."

Case XVIII.—"Frank Husted, seven years old, of Minneapolis, Minn., died of rabies on May 7, 1901. He was bitten on the hand three weeks before by a stray dog."

Case XIX.—"Helen Hayes, of West Conshohocken, Pa., died of rabies on May 23, 1902. She was bitten on the cheek four weeks before, by an unknown dog."

Case XX.—"Hattie Muhlum, of Chicago, was bitten on the face and hands on April 14, 1901, by a dog which was shot on the same day after having shown symptoms of rabies. She died on May 21st."

Case XXI.—"William Herman, four years old, of Paterson, N. J., died at St. Joseph's Hospital, in that city, on June 1, 1901. He was bitten on the head on April 15th, by a dog which was shot soon after."

Case XXII.—"Nicholas Nash, of Chicago, died of hydrophobia on June 7, 1901. He was bitten on April 26th."

Case XXIII.—"Wallace Meikeljohn, five years old, of Philadelphia, died of rabies at St. Joseph's Hospital in that city, on June 18, 1902. He was bitten by a dog on May 13th."

Case XXIV.—"Lucretia Chewing, of Oxford, N. C., died of hydrophobia on June 23, 1901; she was bitten on the nose by a dog on May 23d."

Case XXV.—"Charles Cook, a farmer, of Red Bank, N. J., died of hydrophobia on July 27, 1902. He had been bitten by a rabid dog in January."

Case XXVI.—"Laredo, Texas, July 28, 1901. José Garcia was, seven months ago, while in Starr County, bitten by a rabid coyote. He died of hydrophobia yesterday."

Case XXVII.—"Lancaster, Ky., August 6, 1901. As a result of a bite of a rabid dog, three weeks ago, Mrs. Farmer, in Lincoln County, died of hydrophobia to-day."

Case XXVIII.—"Lewis Hubbard, of Princeton, N. J., died of hydrophobia at the Mercer Hospital, Trenton, on August 27, 1901. He was

¹A woman bitten at the same time by the same dog was treated at the Institute from January 11th to January 31st and is well.

bitten by a dog about eight weeks before." [The medulla of this man was sent to us, and we could but confirm the diagnosis.—N. Y. P. I.]

Case XXIX.—"Hannibal, Mo., August 26, 1901. Martha Jane died here to-day of hydrophobia. She was attacked by the family dog at her home, a few weeks ago, and bitten in several places. A 'mad stone' was applied several times."

Case XXX.—Michael Meturka, a miner, of Scranton, Pa., died of hydrophobia on September 2, 1901. He was bitten on the hands by a dog about three months before.

Case XXXI.—"St. Joseph, Mo., September 3, 1901. The six-year-old son of G. A. McBride, of Chillicothe, died of hydrophobia yesterday. He was bitten on the face by a mad dog about six weeks ago."

Case XXXII.—"George Edminston, eleven years old, of Johnstown, Pa., died of rabies on September 2, 1901. He was bitten on the face by a dog one month before."

Case XXXIII.—"W. H. Boyd, a farmer, of Fredericktown, O., was suffering with rabies on October 5, 1901. He was bitten on the hand by a strange dog five weeks before."

Case XXXIV.—"John Hall, four years old, of Chicago, was bitten by a rabid dog on September 19, 1901. He died on October 5th."

Case XXXV.—"Owosso, Mich., October 6, 1901. The eight-year-old son of Fred Defrenn, residing near this city, is in the throes of hydrophobia from the bite of a mad dog received several weeks ago."

Case XXXVI.—"Allentown, Pa., November 4, 1901. J. M. Bartholomew, of this city, is suffering from hydrophobia, the result of a cat's bite inflicted several weeks ago."

Case XXXVII.—"Harry Bailey, twenty-five years old, of Aurora, Ind., died of hydrophobia on November 18th. He was bitten on the hand three months before by a dog."

Case XXXVIII.—"Mrs. Kate Martin, of Camden, N. J., died of hydrophobia on December 7, 1901. She was bitten on the hand seven weeks before by a dog."

Case XXXIX.—"Frank Austin, thirteen years old, of Jersey City, died of rabies on December 11, 1901. He was bitten on the hand on October 22 by a dog." [At that time the family physician advised the parents to bring the boy to the Institute; but he seemed to be well, and this was not done.]

Case XL.—"Mrs. Chas. Boss, thirty years old, of Bernardsville, N. J., died of hydrophobia on December 21, 1901. She was bitten several weeks before by a strange dog."

Case XLI.—"Clement Kiernon, six years old, of Jersey City, was bitten on the right cheek by a dog on November 27, 1901. He died of rabies on December 28th."

After this long list of deaths we believe that we need not offer any apology for outlining here the course to pursue when a person has been

bitten by a dog or other animal susceptible to rabies.

Only a few days since one of our patients, who had studied medicine in Vienna some thirty years ago, told us that one of the most eminent professors of the Vienna faculty at that time recommended that a dog should be killed *the instant* that it had inflicted a bite! The teaching has changed since then, but the later ideas are evidently not sufficiently widespread, especially among the laity which should be informed by the profession on such matters.

The first thing to be done, then, when a person has been bitten by a dog is to remember that the animal is our "star witness," and that without it we have no evidence. Naturally, the evidence must not be destroyed and the dog should not be killed. If possible, it should be kept under observation for a few days. Roux demonstrated several years ago that the saliva of a rabid animal may be virulent three days before the appearance of any symptoms of the disease. But the inexperienced observer may not notice these first symptoms and we follow the rule established here by our regretted Dr. Gibier: We recommend that the dog be kept in confinement and carefully observed *for at least one week*. If the animal has already shown signs of disease, our advice is the same; it must not be killed, for, as we have mentioned in our "Remarks on Diagnosis," the lesions which allow a diagnosis to be made within twenty-four hours may not be present in the early part of the disease. As soon as the animal dies, its head and neck should be cut off (as near the shoulders as possible) and sent to the nearest laboratory to have the crucial tests made. If this be impossible, the brain and the medulla should be carefully taken out and pieces of each put into two clean bottles, one containing 95-per-cent. alcohol, the other pure glycerin. The material will then be in good condition for examination and inoculation after several days. The diagnosis should be made as quickly as possible, as the treatment must always be given early. In cases of bites on the head, the dog may be killed as soon as it shows well-marked symptoms of paralysis and the brain and medulla extracted; several hours and from two to three days in dumb rabies may thus be saved—a matter of great importance.

Of course, when the dog has disappeared, one must rely on clinical symptoms; inquiry should be made as to its whereabouts, its behavior; whether it had been bitten by another animal some time before, whether cases of rabies have been reported in the vicinity, etc.

As to the patient's wounds, little need be said. However, we must express our opinion as regards cauterization: *It should never be relied upon*. This does not mean that we advise against cauterizing a wound inflicted by a rabid dog; indeed, it has been shown that *immediate* cauterization with the cautery (actual or thermo-) or with fuming nitric acid, will often destroy all the virus inoculated; if it does not afford an ab-

solute safeguard, it will at least tend to increase the length of the period of incubation, and this is important if the patient cannot reach an Institute within a short time. But if the wound cannot be treated in this way within one hour, it is much better to treat it antiseptically, as any other infected wound; an application of tincture of iodine has been recommended by Babes; the wound should be washed with a solution of carbolic acid to which a little 95-per-cent. alcohol is added, or with any other good antiseptic solution, and either a wet or a dry dressing applied, according to the size and nature of the wounds. *Nitrate of silver*, which is so often used for cauterizing, is worthless in these cases, and retards the healing of wounds which, treated in the ordinary way, would promptly get well.

In any case, the patient should always be urged to undergo the preventive treatment early if the latter is thought advisable.

NEW YORK PASTEUR INSTITUTE AND ST. LOUIS PASTEUR INSTITUTE.

STATISTICS OF THE PREVENTIVE TREATMENT AGAINST HYDROPHOBIA, YEARS 1900 AND 1901 (ELEVENTH AND TWELFTH YEARS).

	A	B	C
Bites inflicted on the head and face.....	5	2	6
Simple.....	5	2	6
Multiple.....	13	5	7
Cauterization.....	4	3	2
Efficacious.....	4	3	2
Non-efficacious.....	9	4	11
No cauterization.....	22	18	28
Bites inflicted on the hands.....	40	29	25
Simple.....	40	29	25
Multiple.....	62	47	53
Cauterization.....	38	25	34
Efficacious.....	38	25	34
Non-efficacious.....	23	22	30
No cauterization.....	41	41	50
Bites inflicted on Limbs.....	5	2	18
Simple.....	5	2	18
Multiple.....	13	6	25
Cauterization.....	4	3	14
Efficacious.....	4	3	14
Non-efficacious.....	9	3	11
No cauterization.....	5	4	10
Clothes torn.....	5	4	10
Bites inflicted on different parts of the body.....	88	60	93
Simple.....	88	60	93
Multiple.....	13	6	25
Cauterization.....	4	3	14
Efficacious.....	4	3	14
Non-efficacious.....	9	3	11
No cauterization.....	5	4	10
Clothes torn.....	5	4	10
Bites inflicted on bare parts.....	5	4	10
General total.....	241	241	241

NOTE.—Column A refers to persons bitten by animals in which hydrophobia has been evidenced by experimentation or by the death of some other persons or animals bitten by them; column B to persons who have been wounded by animals having been recognized rabid by the clinical or veterinary examination; and column C to cases in which hydrophobia could only be suspected, as the animals had disappeared or were killed instantly and their bodies thrown away.

Of these 241 persons treated, 81 were children under sixteen years of age, 129 men and 31 women. In 220 cases the wounds were inflicted by dogs, in 13 cases by cats, in 2 by a cow, and in 2 by a calf. One hundred and sixty-five persons came to receive the treatment during the first week after having been bitten; 37 during the second week, 21 during the third week, 9 during the fourth week, 4 during the fifth week, 4 during the eighth week and 1 during the sixteenth week.

THESE 241 PERSONS TREATED CAME FROM:

Alabama.....	4	New York.....	121
Florida.....	1	Ohio.....	2
Georgia.....	3	Pennsylvania.....	20
Illinois.....	1	South Carolina.....	1
Kansas.....	1	Texas.....	6
Kentucky.....	4	Virginia.....	4
Mississippi.....	3	West Virginia.....	3
Missouri.....	3	West Indies.....	3
New Jersey.....	55		

One word more, to answer a question which is often asked us by patients as well as by physicians: Can the Pasteur treatment do any harm? Among our 1,608 cases we have had four in which untoward symptoms could be traced to the treatment; three had a partial paralysis of the lower limbs, lasting from one to three weeks, and which, in two cases, was evidently brought on by undue exposure to cold; one had facial paralysis lasting about four weeks, and due to the same cause: the patient was exposed to a cold draught after taking a very hot bath. In fact, we know that exposure to cold may often bring on suddenly the symptoms of rabies in persons or animals being in the latent period of incubation. These four cases made uneventful recoveries. Our experience is thus similar to that of all the other antirabic institutes. It may briefly be said that the antirabic vaccinations may cause slight nervous disturbances in neurasthenic and hysterical persons; these disturbances, however, have never been serious and they are extremely rare.

SPECIAL ARTICLE.

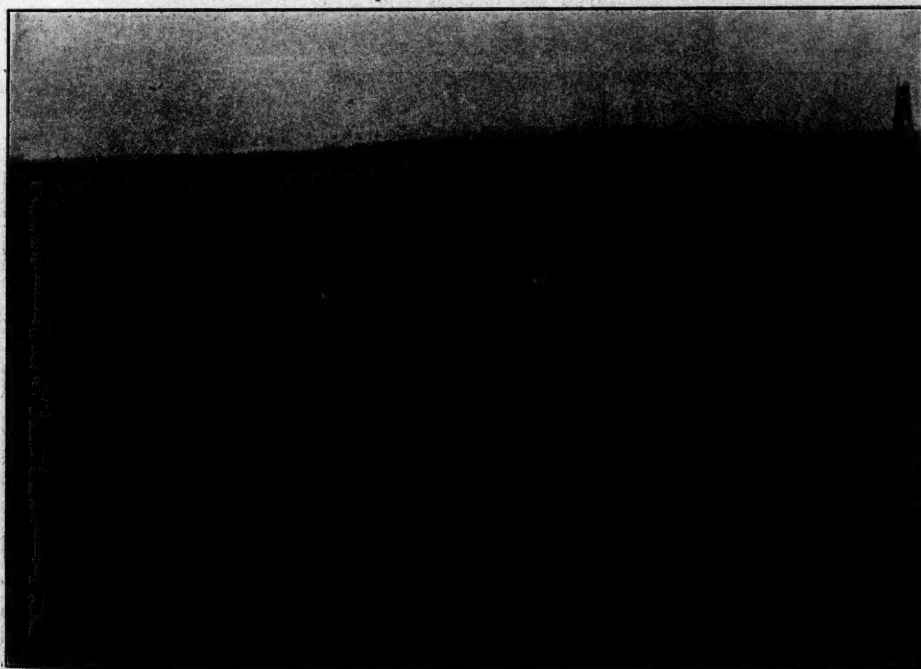
THE SARATOGA MEETING: PRELIMINARY ARRANGEMENTS OF AMERICAN MEDICAL ASSOCIATION COMMITTEES.

UNDER the energetic management of the Committee of Arrangements, the early plans for the next annual meeting of the American Medical Association, which will be held at Saratoga Springs, N. Y., June 10 to 13, 1902, have satisfactorily matured, and there is every indication that the coming convention will be the most largely attended and the most successful in the entertainment, pleasure and benefits afforded the delegates and their families that has ever been held. The able Chairman of the Committee, Dr. Geo. F. Comstock, has received valuable assistance from its remaining members, Drs. Geo. T. Church, A. S. Downs, E. D. Ferguson, A. Hewitt, F. J. Sherman and J. F. Humphrey, each one of whom has proved an exception to the general rule that the members of an important committee are content to leave not only the whole responsibility, but every detail, to its head. The Committee has demonstrated its efficiency by having practically completed the outline of work for all of the other committees that will have to do with the meeting, and by having perfected almost every detail in the plans of the Entertainment Committee, which it is so important to have prepared well in advance.

The United States Hotel has been chosen as the general headquarters, and here will be the parlors of the principal officers of the Association and the meeting-place of the various committees during the convention week. The hotel ranks among the largest in the world, and its roomy parlors, cool lobbies, broad piazzas and gardens, constitute an ideal spot for these purposes. The Hathorn Springs pavilion, where will be located



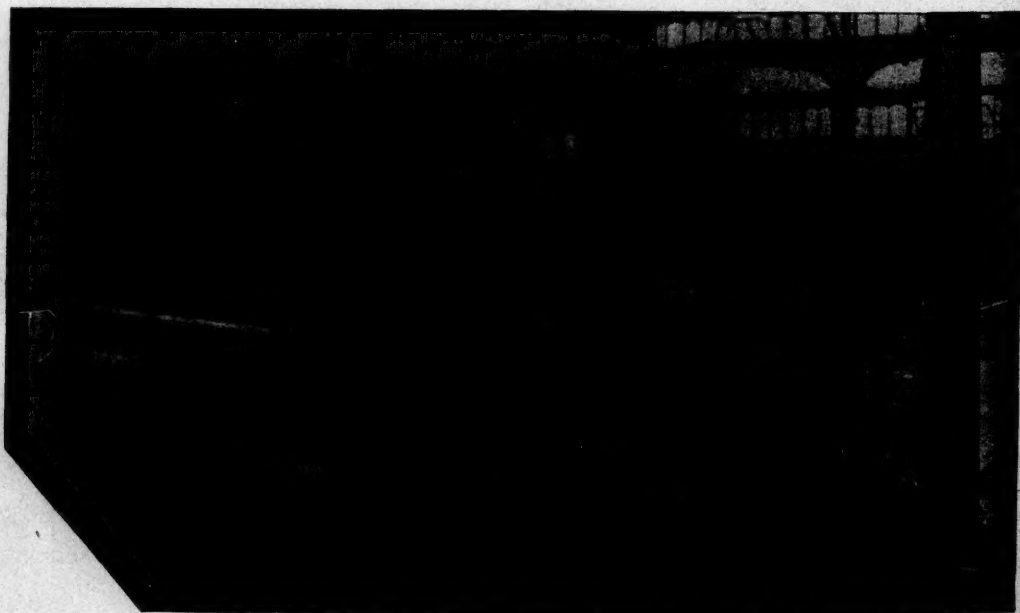
VIEW OF UNITED STATES HOTEL.
Headquarters of Officers and Committees.



VIEW OF CONVENTION HALL.
Where the General Sessions will be held.



INTERIOR OF CONVENTION HALL.



PORTION OF INTERIOR OF HATHORN SPRINGS PAVILION.

In this pavilion will be located the Bureau of Registration, Bureau of Information, Post Office, and Exhibit halls.

the Post Office, the Bureau of Registration, the Bureau of Information and the Exhibitors' Halls, is but a few steps across the street, and a short block and a half away is the big Saratoga convention hall where the meeting of the General Sessions will be called to order. The selection of the various halls and parlors where the Sections will meet has not yet been completed, but accommodations of the kind needed are so abundant that the Committee will have little difficulty in securing very pleasant and commodious quarters in the immediate vicinity of the hotels and convention hall. So convenient are the facilities at its disposal, that the Committee anticipates that no delegate to the meeting will be required to take at any time a longer walk than two hundred yards to reach the most widely-separated points where business of the convention will be in progress.

The first important social event of the week will be a piazza concert, to be held Tuesday evening, on the garden-like piazzas of the United States Hotel. On Wednesday morning there will be a concert in the beautiful park of the Congress Springs Company, one of the most attractive spots in Saratoga, and in the afternoon the ladies who accompany the physicians will be treated either to a high class vaudeville entertainment at Saratoga lake, or will be conducted on a trip to the famous Saratoga Monument. In the evening a reception and ball will be held at the United States Hotel.

On Thursday morning there will be an excursion to Lake George for the lady guests of the city. The afternoon entertainment for the fair visitors has not yet been determined upon, but the effort will be to make the Thursday afternoon diversions the choicest of all those designed for the pleasure of the ladies. On Thursday evening the final event of the meeting, the President's Reception, will be held in the parlors of the United States Hotel.

All the arrangements for these events are well in hand, and a spirit of liberal hospitality becomes evident as each detail is elaborated. The magnificent accommodations afforded by the city for the convention purposes will be accentuated by complete and thoroughly enjoyable features of the entertainment provided, and the generosity and smoothness with which the Entertainment Committee's plans will be carried out.

A citizen's reception committee, to be chosen in a week or two, will supplement the work of the regular committee of the Association, which, by the way, is soon to be greatly augmented by the addition of physicians from all parts of New York State who are also members of the State Association.

It may be remarked that never before has the Arrangement Committee of a medical association perfected such elaborate preparation for the pleasure of the wives of those in attendance as is the case this year. The fact that Saratoga is the largest and most widely-known watering-place in America has caused the Committee to

anticipate an unprecedented attendance on the part of the ladies who will wish to make or renew an acquaintance with the attractions of this famous center of social activity. The entertainment of these visitors will be the earnest work of those wives of physicians forming the special Ladies' Reception Committee and to their efforts will be added the enthusiasm and experience of the ladies in the families of Saratoga's leading business men, who help to entertain several great gatherings every year, and therefore know just the right way in which to entertain and please.

To some of the social events the presence of Governor Odell and certain members of his staff is expected to add brilliancy. The Governor has not yet formally accepted the invitation to be present, as it is impossible for him to do so far in advance, but there is every reason to believe that he will attend.

An indication that the importance of this year's meeting is being widely recognized is given in the report of Dr. J. F. Humphrey, that the early demand for space in the Exhibit Halls has been unprecedented. There are only a few of the exhibition booths yet unassigned, but these are in a very desirable location and there is no question that every square foot of the space available for this purpose will soon be sold.

The chairmen of the various subcommittees, whose earnest labor has brought the arrangements for the coming meeting so close to perfection, are as follows: Finance, Dr. E. D. Ferguson; New Membership, Dr. F. Holme Wiggin; Transportation, Dr. W. E. Swan; Entertainment, Dr. Adelbert Hewitt; Halls for Meeting Places, Dr. D. C. Moriarta; Badges, Dr. W. H. Sanford; Banquets, Dr. F. J. Reseguie; General Exhibits, Dr. J. F. Humphrey; Bureau of Information, Dr. M. E. Varney; Programs and Printing, Dr. Geo. T. Church; Registration, Dr. J. B. Ledlie; Post Office, Dr. A. W. Thompson; Hotels, Dr. Jas. R. Swanick.

MEDICAL PROGRESS.

THERAPEUTICS.

Forced Feeding and Underfeeding.—The state of nutrition of an individual depends, according to VAN NOORDEN (*Deutsche Klinik*, Feb., 1902) not only on the degree of fat, but also on the condition of the muscular tissues. The latter is the more important, for with a healthy musculature is associated a normal blood and glandular system. For every individual there is a certain optimum of nutrition, to recognize which requires considerable experience and judgment on the part of the practitioner, inasmuch as he has to take into consideration not only the general condition of health, but also the capacity of all the organs. Those predisposed to tuberculosis are endangered by leanness and protected by corpulency. Neurasthenics, as a rule, feel better when they gain in weight. To those suffering from cardiac and renal diseases and emphysema, every unnecessary burden of fat is an evil. Early attempts at the cure of obesity have shown that with the effort at reduction of fat there also occurred a

consequent weakening of the muscular system. But Van Noorden and Doppen experimentally proved that when the transition to a poor diet from a rich one is gradual, this weakening of the musculature does not occur. Van Noorden takes up the subject of forced nutrition, which is indicated in the following diseases: (1) In chronic wasting diseases. (a) Tuberculosis, in which it places the patient in the best condition for cure and in which it is the best prophylactic agent in children and adolescents predisposed to it. (b) In syphilis, the later stages of which are regularly associated with a loss in the body substance. Many old, obstinate cases of tertiary syphilis lend themselves to speedy cure when the nutrition is pushed. (c) In diabetes mellitus experience teaches that good nutrition is capable of warding off many of the dangers of this disease, which is likewise the case with diabetes insipidus. (d) Forced nutrition is of eminent value in Basedow's disease. (2) In functional nervous diseases, including neurasthenia and hysteria, which respond well to increased nutrition. (3) In all individuals with poor bodily nutrition. The author then discusses the indications for underfeeding. In the treatment of obesity, three different grades must be distinguished. (a) In extreme obesity the extent to which the diet should be restricted depends on the age of the patient. With children and adolescents up to the twentieth year, one should be satisfied to oppose the accumulation of fat only at intervals, and then only in periods of from four to five weeks in duration (intermittent obesity cures). In old age obesity cures should be avoided, for they are followed by rapid collapse of the strength. (b) Medium grades of obesity, in which the individual weighs from fifteen to twenty-five kilograms above the normal, respond best to treatment, but in these the same precautions should be observed as with the others. (c) Moderate grades of obesity demand no fat cures, but an attempt should be made to prevent the further accumulation of fat. There are indications for the reduction of fat in diseases which it complicates, as diseases of the heart, arteries, kidneys and lungs, and in chronic articular rheumatism, in gout, and in diseases of the organs of locomotion. Functional nervous diseases that are associated with obesity are benefited by a restricted diet.

Sterilized Grape Juice as Medicine.—The grape cure and the cost which it necessitates place it ordinarily beyond the means of most patients. E. IVANOV (La Sem. Méd., Feb. 5, 1902) replaces it with expressed grape juice, which can be taken about half an hour or an hour before breakfast in doses of from four to eight ounces, and which corresponds ordinarily to two hundred or four hundred grams of grapes. The liquid must be preserved in bottles carefully corked and kept in a cold place. It must be warmed slightly before being taken in order to make its effects more active. As soon as the dose has been absorbed the patient should take a little walk or other exercise. The author has successfully treated in this manner a number of cases of chronic bronchitis, nephritis and intestinal atony. He also employs it with equal success as a general tonic for convalescents from typhoid fever and severe forms of gripe. In two cases of organic heart disease, in one of aneurism accompanied with renal congestion and edema of the lower extremities and abdomen, this grape juice proved to be especially useful by reason of its diuretic action. The author thinks that this juice can be advantageously substituted for the grape cure, not only because it is more convenient, but also because it is exempt from the ordinary objections to grapes, namely, irritation of the teeth, of the mucous membrane of the mouth

and occasionally of indigestion from fermentation after eating the fruit.

Cassia Beareana and African Fever.—Obscure forms of fever combining jaundice and hemoglobinuria exist in the tropics, especially in Africa, and ordinarily resist the well-known methods of treating them, such as quinine, tannic acid, ergot, perchloride of iron, etc. O'SULLIVAN-BEARE, an English physician living in the tropics of Africa (La Sem. Méd., Feb. 5, 1902) reports success with the following remedy: From the natives he learned that a certain plant, a legumen, possessed active principles curative of the disease. He secured the plant, made a decoction of its roots, and tested it and to his great satisfaction found it useful. The plant has been called *cassia beareana* by M. E. Holmes, the curator of the Museum of the Pharmaceutical Society of Great Britain. A fluid extract is now made by making a maceration of the root. In five cases of hemoglobinuria, two of which were serious, and in other cases of tropical fever, O'Sullivan-Bearé obtained good results with this medicine.

Advantages of the Ice-pack.—In discussing the disadvantages of the tub-bath in the treatment of typhoid, L. L. ROOS (Phil. Med. Jour., Mch. 1, 1902) calls attention to the very frequent invasion of a pneumonic process which is due to the exposure of the patient during the bath, also to the shock attending the transfer from a warm bed, to the danger from hemorrhage and perforation due to the rough handling, to the relatively short effect of the immersion on the temperature. He believes that these disadvantages are obviated by the cold pack, which can be briefly described as follows: The temperature is taken *per rectum* q. 4. h. and if it be over 102.2° F. the pack is given. Whisky (8ij) may be given before and after, if the urine be negative; if not, hot milk should be given. The bed being properly protected by a rubber sheet with a blanket over it, the patient is wrapped up in a sheet and blanket, wrung out in water at a temperature of 70° F. Half an hour later a second sheet at a temperature of 60° F. is substituted for the first, which is changed again in another thirty minutes to one at a temperature of 50° F. At this time the axillary spaces, the arms and legs, may be packed with cracked ice outside the sheets. The pack is repeated for the last time at a temperature of 40°, the entire procedure consuming two hours. The thermometer always shows a drop of from two to five degrees and it is claimed that the method acts as a sedative, that it stimulates the heart, does away with shock and rough handling, and can be more readily given than the tub-bath.

Strophanthus.—The actions and the medical uses of strophanthus, which is perhaps the most important of the cardiotonic drugs after digitalis, are summed up as follows by MARTINET (Ann. Polyclinique de Paris, Jan., 1902): (1) It cannot be compared to digitalis in the constancy of its effects. Nevertheless, in certain cases it succeeds when digitalis has failed, and it is of value in replacing digitalis during the periods of treatment in which that drug is suspended for the purpose of avoiding its cumulative effect. (2) It has no marked action upon either the vessels or the arterial pressure. It is, therefore, preferable to digitalis in all cases in which arterial tension is evidently a source of embarrassment to an enfeebled heart. (3) The dosage is very irregular. In order to avoid its toxic effects, and at the same time secure its real benefits, it should be given in progressively increasing doses, till the physiological indication has been fulfilled. There are only two preparations of value, namely, the extract and strophanthin; the tincture is very unreliable. The extract is to be given in doses of from one to six milli-

grams, several times a day, its effect being watched. The dose of strophanthin is one-tenth as large.

Ichthylol in Tuberculosis.—In managing patients who seek the Allegheny Mountains region for the benefit of the climate, C. F. SPANGLER (St. Louis Med. & Surg. Jour., Mch., 1902) has found that mere climatic treatment gives poorer results than when such treatment is combined with the internal administration of ichthylol. The chief objections to the use of ichthylol are its odor, its taste and the eructations which it produces; these are largely neutralized by the use of capsules. A gradual improvement in the chest symptoms begins to be noticed after the first week. The appetite improves as the local symptoms subside. The drug is only useful in the chronic forms of tuberculosis. If a pleuritic or pneumonic attack occur the use of ichthylol should be suspended until all acute symptoms have subsided, when it may be resumed. Spangler suggests that ichthylol be given in all cases of obstinate cough or persistent irritation of the upper air-passages, particularly when following an attack of grippe, pneumonia or typhoid fever.

Boric Acid as an Irritant.—For many years boric acid has been regarded as free from toxic properties. In reality, however, it may give phenomena of poisoning when it is employed too persistently. Thus may occasionally be seen somewhat severe and definite signs of irritation of the rectum by means of irrigation containing boric acid. LE CLERC (La. Sem. Méd., Feb. 5, 1902) has observed a man in whom a stomatitis followed the employment of a gargle of this substance. The patient was suffering from grippe with tonsillitis, for which the doctor prescribed, among other remedies, a gargle composed of equal parts of an infusion of lime-tree flowers and boric acid to 3.75 per cent. Hoping to cure his tonsillitis more quickly the patient did not follow directions, but employed the boric acid in very strong suspension, almost pure. After having used it for fifteen hours and consuming about two quarts of it he suddenly found his sore throat very much worse, and all the signs of a stomatitis present. On examination of the mouth the mucous membrane of the cheeks, of the vault, of the palate, and of the gums, was found to be inflamed and to present grayish spots of irregular form, like daubs with a brush. These spots resembled very closely the mucous patches in syphilis. The rest of the mucous membrane was a brilliant red and felt as if on fire. The gargle was stopped and a few washings with alkaline water served to restore the mouth to a normal condition within a day or two.

Hyoscine Hydrobromate in the Treatment of Tremors.—Hyoscine has been regarded as above all a sedative to the nervous system, valuable chiefly in conditions such as acute mania and alcoholic delirium. But this action of hyoscine is not constant. A. ROBIN (Bull. Gén. de Thérap., Feb. 21, 1902) has noticed that the sedative action of hyoscine is most constant in cases of marked tremor. A characteristic case of Parkinson's disease in which this treatment was successfully practised is described. Robin cites also cases of chorea and of senile tremor which yielded to subcutaneous injections of hyoscine hydrobromate, the doses varying from .0001 to .0005 per day. He suggests that this drug is probably more useful in the class of cases mentioned than are the therapeutic means commonly employed.

Practical Experience with Hydrotherapy.—To the practitioner interested in hydrotherapy especially promising fields for study are offered by tuberculous, diabetic, anemic, neurasthenic, rheumatic and cardiac cases. So far as the neurasthenic cases are concerned J. J. PUTNAM and G. W. FITZ (Boston Med. & Surg. Jour., Mch. 13, 1902) find that, while most patients gain under

treatment, it is difficult to form a fair estimate of the value of the baths as such, so largely do the elements of encouragement and discouragement enter into the problem. Putnam treats his diabetic cases with hot douches followed by moderately cool douches, and at the same time follows the co-ordinatory treatment devised by Fraenkel; a share of his success, especially so far as relief of pain and of girdle sensations is concerned, he attributes to the water treatment. An unexpectedly good result has been gained under combined treatment, baths and exercises, in a case of spastic-ataxic paraplegia. Heat and pressure, with moderate cold, have been relied on in this case, rather than great degrees of cold. Cases of paralysis agitans have improved only with regard to the general nutrition and sense of well-being.

Value of Alcohol as a Therapeutic Agent.—Considered as a drug pure and simple, alcohol belongs to the group of narcotics. The action of alcohol upon the nerve cells, by which it produces its drug effects, writes H. F. HEWES (Boston Med. & Surg. Jour., Mch. 13, 1902), is a poisonous one and places the drug among the narcotic poisons. In addition to its narcotic effects, alcohol influences the body in a number of ways. Its general uses in therapeutics to-day are chiefly (1) as a heart stimulant; (2) as a nerve stimulant or general tonic; (3) as a digestive stimulant; (4) as a food; (5) as a general remedial agent in acute infectious diseases. The results of the most accurate experimental investigation in regard to the action of alcohol on the heart and circulation dictate the opinion that the use of alcohol for the purpose of cardiac stimulation, especially in continuous doses for one or more days, is irrational. Excepting always the initial effect resulting from its irritant action, alcohol is generically a depressant of the heart and circulatory mechanism. The work of Aschaffenburg and others shows also that the common custom of the use of alcohol as a tonic for nerve and muscular work in conditions of chronic disease or of debility is irrational and probably harmful. It is to the narcotic effects of alcohol that the majority of the medicinal effects, variously interpreted as stimulant or tonic, are due. The higher nerve centers are depressed and thus the nervous excitement which accompanies acute disease or fatigue is quieted; the relief from nerve strain is rest to the patient and he feels better. Alcohol ameliorates the results of shock by depressing or paralyzing the higher centers which control inhibitory forces. The evidence of a long series of observers indicates that by its pleasant taste and slight irritant action alcohol taken with food may stimulate appetite; that it has any other influence upon digestion is not proven. From a physiological point of view alcohol is to be considered a food. Whether it is a good food is another question. Both experimental and clinical observation and study have proven that in addition to its food properties alcohol possesses certain drug properties, as a result of which it tends to produce disturbance of the nervous system and destruction of tissue protoplasm. A drug which depresses the nervous system and wastes protoplasm in health will do so in most chronic diseases. In special diseases, however, such as pneumonia or typhoid, the patient may not be able to utilize ordinary food substances and may be able to utilize alcohol and in such a case only is it rational to use alcohol as a food. In such emergencies the risk of poisonous effects is taken for the sake of the nutritional value of the drug. The writer does not intend to deny that alcohol has any value as a therapeutic agent, but to present a critical study of its use. As a result of more careful application of knowledge of its effects, the use of alcohol will be restricted and corrected.

Therapeutics of Arrhenal (Sodium Methylarsenate).—A series of clinical observations on the effects of methylarsenate of sodium is communicated by A. GAUTIER (Bull. de l'Acad. de Méd., Feb. 25, 1902). Favorable results were obtained in pulmonary tuberculosis in the second and third stages as well as in incipient cases. In apyretic cases the medication was most successful, causing general arrest of the phthisical process. In nearly every instance the patient gained in weight and strength. The appetite and the state of the stomach always remained satisfactory. In infantile adenopathy with persistent leucemia arrhenal was equally effective, whether given subcutaneously or by mouth. Cases are described in which advanced local adenitis was arrested and the general condition correspondingly bettered. In chorea and in the vomiting of pregnancy arrhenal is as potent for good as are the ordinary cacodylates. Petrin recently published a series of cases of carcinoma successfully treated by cacodylate of soda, but it remains for the future to decide upon the merits of this treatment. Gautier's experiments show that the methylarsenate can be administered to the adult in doses of fifteen centigrams daily without toxic effect. It would be inadvisable to give such doses for any extended period. In tuberculous subjects the maximum good was obtained when daily doses of five centigrams were given. Special care must be exercised in the administration of this remedy to persons suffering from hepatic cirrhosis or congestion or from cardiac disease, as well as to those subject to pulmonary or intestinal hemorrhage. Arrhenal has neither odor nor taste and is readily accepted by dyspeptics. It has no inhibitory action on digestion.

Asylum Dysentery.—Institutions of all classes are subject from time to time to epidemics of dysentery. Those which suffer most are the havens of chronic patients, insane or otherwise. P. W. MACDONALD (Lancet, March 1, 1902) reports an incipient epidemic in the Dorset County Asylum in 1900, which he checked in the following manner: Injections of permanganate of potash were resorted to as soon as the case was diagnosed. The lower bowel was washed out, night and morning, with a solution containing from two to four grains of the permanganate of potash to the pint of water through an ordinary syringe. The motions rapidly lessened and the treatment had seldom to be prolonged beyond the third day. Recovery was universal although some of the cases were very severe. Moreover the epidemic did not spread to a large number of patients. The drug seemed to act in its double capacity of disinfectant and styptic. In the more severe cases milk was found an undesirable article of food, appeared to increase the intestinal irritation, and was rejected in favor of beef-tea and rice. One of the patients died of pneumonia after recovery from the dysentery, and at the autopsy it was found that the colon showed a large number of healed ulcers of recent date.

EYE, EAR, NOSE, AND THROAT.

Pyemia of Otic Origin; Cure without Sinus Operation.—The successful outcome of cases of otitic pyemia which have been treated by operations upon the jugular vein or the lateral sinus should not lead us to overrate the value of operative procedures practised in these cases, says W. SCHULZE (Arch. f. Ohrenheilk., Bd. 53, S. 296). In three cases described by Schulze, all of marked severity, cure was effected without interference with the jugular vein and without operating on the sinus. The author especially urges the importance of attention to general therapeutic measures for the treatment of pyemia even when radical operations are performed. In conjunction with the mastoid operation general treatment of the pyemia is

very often entirely successful. The veins enumerated by Schulze are essentially those which were taught long ago by Schwartze.

Electrolysis and Eye Diseases.—Although for many years electrolysis has often been employed in the treatment of conjunctival granulations, it has never been used in cases of true pannus trachomatosis, which one combats usually by peritomy and by jequirity. L. LOR of Brussels (La Sem. Méd., 1902, No. 4) has been able to cure this form of pannus by electrolysis applied directly to the cornea, even when it is in a somewhat irritated condition. His method is as follows: The patient is anesthetized to the surgical degree and conjunctival granulations are first removed; then, always with a current of two or three milliamperes, the positive pole is applied to the cheek on the same side as the diseased eye and after this is fixed with a clamp the operator proceeds slowly to pass the comb of the instrument around the cornea, circumscribing the pannus in all its extent and destroying the perikeratitic tissues for a distance of perhaps three or four millimeters. The same process is repeated one or two times according to the degree and thickness of the infiltration until the episcleral layer is reached. Then the comb of the instrument is passed two or three times very lightly over the cornea itself, and over the whole area of the pannus, with careful attention to touch the blood-vessels which pass in the superficial layers of the cornea. Then, after washing the eye, a little vaseline is introduced between the lids and a simple dry dressing is applied, which may be removed the following day. The results of this operation are always very benign and the patient does not hesitate to open his eyes. It is usually necessary to drop a little cocaine into the eye to quiet the pain and the photophobia, which may be present during the first few days after the treatment. The region where the electrolysis was applied is slowly invaded by scar tissue at the same time that the cornea takes on slowly a luster and a transparency almost equal to the normal before the inflammation began. On the whole this treatment gives prompt results in this form of pannus. Gallemearts, an associate of Lor, has extended this same treatment to other diseases of the cornea, especially to pannus strumosus, keratitis and some forms of ulcer. The method of treatment is similar and the results are flattering.

Identification of Criminals Through the Fundus of the Eye.—In line with the systems already devised for the certain identification of criminals is a method proposed by M. F. WEYMANN (Jour. Amer. Med. Assoc., Feb. 22, 1902). He calls attention to the fact that the conformation of the fundus oculi and the disposition of the arteria centralis retinae and its branches are not constant, in contradiction to the usual belief. Absolute identification can be obtained by an exact drawing of the papillae and the surrounding retinal circle, the points to be considered being the method, point, and angle of division, the exact distance of the divisional points from each other, the course of the twigs and the distance everywhere between arterial and venous branches. The only condition able to impair this test would be the impossibility of fundus exploration due to clouding of the media.

Moisture on the Mirror.—It is well known that the moisture of the breath deposits rapidly upon the mirror in making examinations of the nose and throat. Heating the instrument to a moderate degree has long been recognized as the simplest method of obviating this trouble, but has the objection of not lasting long under conditions like those of difficult and prolonged operations. W. DOWNIE (Lancet, Mch. 1, 1902), while not at all desirous of rejecting the time-honored heating of the mirror, has found that precisely for the purposes men-

tioned the following procedure is very convenient: The mirror is first polished with a soft cloth, its surface rubbed over with "*le crayon anti-buée*," dulling the surface. The mirror is again wiped and polished as before, when the surface will be again clear and bright. After this it may be breathed upon without its brightness being in any way affected. The crayon causes no scratching of the glass, does not interfere with the cleansing and sterilizing of the mirror and has no objections known to the author. He has found this plan very serviceable in examinations with electric light, in prolonged examinations, in examinations away from home, in examinations of children who are afraid of a mirror after it has been over the flame. He adds that dentists may also find the crayon useful and the eye-piece of a microscope may be kept perfectly clear and bright for continuous use in warm weather by the same procedure. The only source of supply that the author knows for the crayon is W. B. Hilliard, 63 Renfield Street, Glasgow, Scotland.

SURGERY.

Röntgen Rays for Malignant Growths.—Several undoubted cures of superficial epithelioma have been reported recently and even greater success is expected in the future, for many of the cases in which this method of treatment has been tried had previously been unsuccessfully operated on and were considered hopeless. W. J. MORRIS (Med. Rec., Mch. 8, 1902) reports seven patients treated by the X-ray and the special importance attached to his series depends upon the fact that most of the malignant growths affected internal organs, breast, stomach and elbow-joint. A gratifying part of the result lies in the immediate relief from pain which is almost always experienced; indeed, in some cases the effect is nearly as rapid as a hypodermic. Great care is necessary in exposing these patients to the rays, for the growth is beneath healthy skin oftentimes and severe burns or gangrene may be caused. Considerable experience is necessary properly to decide how strong a current is required. The treatment in these cases has not yet been continued sufficiently long to determine how permanent the results will be, but the relief from pain and suffering has been remarkable. In addition to a diminution in the size of the growth, secondary glands have softened and have disappeared, and the general condition of the patient has been much improved.

A Hydatid Gall-Bladder.—The extreme rarity of this condition, three cases only having been reported in the past twenty years, coupled with the great amount of work recently done on this organ, makes the following case of interest. A married woman, thirty-two years of age, had suffered for sixteen years from a series of vague symptoms which had been generally ascribed to "inflammation of the womb." Not, however, till May, 1900, did she suffer at all seriously, although it appears that, some years ago, after a very considerable degree of pain, she passed by rectum what looked like "grapes with the stalks removed." At no time had she ever had jaundice and her movements had always been of normal color. In 1898 she had a miscarriage. At that time she suffered considerably and then for the first time noticed that there was a small tumor in the upper abdomen. L. H. MCGAVIN (Lancet, Feb. 22, 1902) reports that on removal the gall-bladder was found to be converted into a large whitish mass measuring about three by five inches; the great omentum and the transverse colon were adherent to it; it presented every evidence of primary carcinoma and, as such, was removed. No other organ seemed to be involved. As yet, no case has been diagnosed prior to operation and, in view of the paucity of symptoms, nausea being as yet the only factor which has occurred with any degree

of regularity, it does not seem probable that any advance will be made in this direction.

Suture of the Olecranon by a New Method.—A method of suturing the fractured olecranon, which the author denominates *hooping (cerclage)*, is described by P. BERGER (Gaz. hebdom. de Méd. et de Chir., Mch. 2, 1902). This method of osseous suture is treatment of choice in fracture with diastasis, in subjects young and vigorous and in the hands of a surgeon sure of his asepsis. A result almost as good, but involving greater expense in time and trouble and more pain for the patient, can be obtained by immobilization for a brief period (eight or ten days) in extension, followed by prudent, progressive mobilization with massage. This latter method is suitable for patients who fear operation and who do not object to the expense of a prolonged treatment, requiring besides medical attendance the services of a skilful masseur. In compound fracture of the olecranon suture is necessary and should follow thorough cleansing of the wound and disinfection of the surrounding parts; free drainage and strict immobilization are requisite as long as the slightest danger of articular infection remains.

Anesthesia During Sleep.—In connection with the recent expert testimony in the Rice will case an article by N. S. SCOTT (Cleveland Med. Jour., Jan., 1902) is interesting as showing that chloroform may be administered to a sleeping person without awakening him. An hysterical woman of twenty-one, who had previously become so excited at the thought of an anesthetic that operation was necessarily postponed, was afterward anesthetized and operated upon without regaining consciousness from an ordinary sleep. Three or four other adult cases are reported. Nitrous oxide gas may be even more easily used than chloroform, but the feat is probably impossible with ether.

Oophorectomy for Malignant Ulcer.—During the past few years several surgeons have performed this operation in seemingly hopeless cases of malignant tumors, but with varying degrees of success. W. H. SIMMONS (Med. Rec., Mch. 15, 1902) reports a case of a woman, forty-five years old, who had had a tumor of the left breast with subsequent ulceration for three and one-half years. When seen, the floor of the ulcer was formed by the chest wall and, although the axillary glands were not enlarged, an operation for removal was not advised. Later, however, an oophorectomy was done as an experiment and four weeks from that time healing began. At the end of eleven weeks the ulcer had entirely healed, being covered by a healthy-looking scar. The ulcer at the time of operation measured four and one-half inches in diameter. The diagnosis was not made by the use of the microscope, but the appearance and signs were those of a typical scirrhus carcinoma. Nothing but a vaseline dressing was used during the healing process.

Ligation of the Abdominal Aorta.—Slowing of the blood current has long been known as a good method of treating aneurism. Not even the aorta in the abdomen had escaped treatment by ligation for aneurism lower down. The operation has been done fourteen times according to the records, the last of which is furnished by R. T. MORRIS (Annals of Surgery, Feb., 1902). His procedure was briefly this: A six-inch incision was made from the ensiform cartilage down to the umbilicus. The aneurismal sac apparently extended at its base from the celiac axis to a point just beyond the mesenteric vessels. The plan of procedure was to employ temporary ligation, so as to fill the sac with clots and then permit the circulation of the blood to continue as before. A soft rubber catheter was selected, 12 mm. in circumference, in order to avoid injuring the intima of the artery. After the catheter

was tightened it was secured with a pair of pressure forceps and both were brought out of the wound, which was narrowed down to them. The patient did exceedingly well considering the severity of the operation. Respiration rose to 48 immediately, and the pulse to 148 and was hard and throbbing at the wrist. One and a half hours later they were respectively 60 and 120; three hours later, 60 and 120 and the temperature 104° F.; nine hours later, 36, 104 and 100° F., with warmth of the legs for the first time, although both were painful and numb. Involuntary urination and defecation were present, hence the urine could not be measured. Nineteen hours after operation sensation was beginning to appear in the legs. Twenty-two hours after the operation the pulsation of the aneurism suddenly began to diminish and after about three hours had apparently stopped. Twenty-seven hours after the operation the ligature was removed and the circulation found to have returned to the legs; pulse 140, rapid and irregular, dropping quickly to 60 with regularity. Sensation completely returned and the control of urination and defecation was resumed. On the following night the patient developed septicemia and died fifty-three hours after operation. At the autopsy it was found that the septicemia was caused by gangrene of small portions of the bowel, which had been in contact with the steel forceps. The aneurism was solidly filled with blood clots, but left a patent aorta. An embolus was found in the left iliac artery, but there was no evidence of injury to the aorta at the site of ligation.

Nephropexy.—Historically Hahn performed the first fixation of movable kidney in 1881. Since then the operation has undergone many important developments. G. M. EDEBOHLS (Annals of Surgery, Feb., 1902) describes his present method of doing this operation in the following terms: The patient is placed face downward upon the table with the author's kidney air-cushion underlying and supporting the abdomen. A straight incision along the outer border of the erector spinæ muscle is made from the lower border of the twelfth rib to the crest of the ilium. Should the space between the rib and the ilium be narrow, the incision is placed more obliquely, so that its lower end will reach the ilium slightly to the outer side of the attachment of this muscle. The fibers of the latissimus dorsi muscle are now bluntly separated from each other just over the outer border of the erector spinæ muscle, without opening the sheath of the latter. The transversalis fascia is split and the perirenal fat is exposed. The iliohypogastric nerve is drawn to one side for safety. If this be impossible, the nerve must be divided and its severed ends united after the operation is over. The sheath of the quadratus lumborum muscle is opened from rib to rib along the anterior aspect of its lateral border. The retraction of the cut edges exposes a large area of raw muscle. The kidney is now freed by blunt dissection, delivered from its fatty capsule through the wound, freed entirely from it, palpated as to its substance, pelvis and ureter, and if necessary punctured or incised. The hand should now be passed down to the cecum through the wound, if a right-sided operation is being done, and the appendix examined. If at all diseased it can usually be delivered through this wound and removed. As part of the same process the other contents of the abdomen may be investigated. The capsule proper of the kidney is now divided along its convex border from pole to pole and stripped toward its pelvis until about half of it is free. Four suspension sutures of forty-day catgut are passed through the reflected portion and the still attached capsule proper close to their line of junction, two sutures being placed on the anterior and two on the posterior aspect of the

kidney, each running parallel with the long axis of the organ. It is now returned to the body cavity and the sutures are passed in turn through the abdominal musculo-aponeurotic parietes. Those to the inner side of the incision will pierce the retracted sheath of the quadratus near its edge, the quadratus itself, and the erector spinæ muscle. Those to the outer side of the incision will traverse the transversalis fascia and the latissimus dorsi muscle. The wound is then closed on the usual principles after the fixation sutures have been tied. If it is properly done the bare surface of the kidney is brought up against the raw surface of the quadratus muscle. Between them very good adhesion promptly occurs.

Imperfectly Descended Testis.—The human testis may be arrested at some spot along the normal route of its migration, namely, within the abdomen, the inguinal canal, just below the superficial abdominal ring, or in the higher part of the scrotum. W. MCA. ECCLES (Lancet, March 1, 1902) defines these several conditions as non-descent, partial descent, or retention. The subject is of considerable interest surgically and the anatomy of the question deserves attention. Further than the above points, the testis, having proceeded as far as the exit of the inguinal canal, may pass into an unnatural position, thereby reaching the perineum, Scarpa's triangle, the root of the penis, or the superficial surface of the aponeurosis of the external oblique muscle of the abdomen. These constitute abnormal descent or ectopia. The causes which are recognized as the most common of a long series bringing about any of these conditions may be classified briefly as follows: (1) Conditions associated with the mesorchium: (a) the mesorchium may be too long; the testis would therefore probably hang too freely in the abdomen and thus be prevented from engaging the ostium of the processus vaginalis; (b) adhesions between the peritoneum forming the mesorchium and the adjacent portion of the serous membrane, generally the outcome of intra-uterine fetal peritonitis; (c) abnormal persistence of the plica vascularis. (2) Conditions associated with a testis and its component parts: (a) the spermatic vessels may be too short; (b) likewise the vas deferens; (c) the epididymis may be abnormal in size; (d) there may be a fusion of the two testes—synorchism; (e) certain forms of hermaphroditism. (3) Conditions associated with the gubernaculum testis: (a) Retraction of the testis after its normal descent; (b) want of action of the internal fibers of its muscle tissue before the testis has reached the inguinal canal. (5) Conditions associated with the long route which the testis has to pass: (a) Ill development of the inguinal canal; (b) of the superficial abdominal ring; (c) of its proper site in the scrotum. (6) Other conditions such as the wearing of a truss, preventing the onward passage of the organ into the scrotum. In some cases the body of the testis may be retained in the canal, while the epididymis and the vas pass into the scrotum. There are probably only two varieties of abnormal descent of the human testis or ectopia of the organ: In the first the testis is drawn into its unusual position by the traction of certain sets of muscle fibers of its gubernaculum. In the second the testis is pushed into its abnormal site by an advancing hernia. In connection with the first it is necessary to remember that the lower attachments of the gubernaculum are not only in the tissue at the bottom of the scrotum, but that there are also at least three other additional sites at which they may terminate. These accessory fibers may be of a permanent nature or only transitory in their existence. The actual regions in which they have been observed

are those precisely in which the ectopia may be found, namely, the perineum, Scarpa's triangle, the root of the penis, and the anterior superior spine of the ilium in front of the external oblique aponeurosis. The treatment of these conditions is based along the lines of effort to replace the organ. Due reference to the factors which cause the difficulty will certainly aid in a better treatment.

Varicose Veins.—Among diseases of the blood-vessels which are amenable to surgical interference, varicosities of the veins of the lower extremities are the most common, and in one sense the most easily treated, and in another sense the most difficult to bring to a perfectly satisfactory result. A. P. GOULD (Lancet, March 1, 1902) brings out concerning them the following facts: The age at which the varices are first noticed is an important matter in the history and will in general be found much earlier than most authors state. The question is one of existence, not of pain, and too often the date at which the pain begins is taken as that at which the varix appeared. As a rule, the general health and the general condition of the tissues of the subjects of varicosity are of the best, the disease usually having no appreciable effect upon the system. There is also a conspicuous absence in all cases of the usual symptoms and consequences of venous obstruction. The result of excision of varicose veins and also of ligation of the main superficial vein, into which they empty their contents, is always of such a character as to demonstrate that the condition is not one of obstruction lying at the bottom of the varicosity itself; for, if this were the case, whenever the operation were done the active symptoms of obstruction would increase, or, if absent previously, would immediately appear. Pregnancy has an important effect on varicosities, and here again a careful history will often show that the woman had the large veins long before she married, but that pregnancy was the cause of so increasing them as to make them painful. Undoubtedly, too much importance is given to the state of pregnancy as a cause, because the disease is found as often in males as in females. Hence in men the absence of any such possible obstruction as pregnancy is assumed to give in women makes it unlikely that she suffers from the disease in virtue of this physiological state. The treatment which the author recommends as the most serviceable for the average case is Trendelenburg's operation, by which the long saphenous vein is exposed near its confluence with the femoral, ligated twice and the vessel between the ligatures cut away. He has examined 121 of his patients treated in this manner with reference to the operation, first, as to its influence upon the patient's comfort; second, as to its influence upon the veins themselves; third, as to the liability to thrombosis. All his patients reported that they suffered less pain after than before the operation. In the vast majority the condition of the varicosities improved; in a few it was stationary; in none did it become worse. In those subjects who had showed a tendency to thrombosis he found that this simple procedure had been of very great benefit. Summing up, he states that this operation is simple, safe, useful in nearly all cases, reliable for the relief of pain, for the hindrance of further development of the varices, occasionally leads to shrinking or even disappearance of them, and is not without strong influence in preventing thrombosis. Its good effects are most pronounced when regurgitation into superficial veins is marked. Its superiority over excision is greatest in cases of widely-distributed and numerous varicose veins. His habit is to allow the patient to leave his bed on the eighth and the hospital on the tenth day after the operation.

PATHOLOGY AND BACTERIOLOGY.

Bacillus Resembling the Tubercle.—Careful examination of the sputum in a case which gave an unmistakable history of pulmonary tuberculosis disclosed the presence of a fungus which failed to cause any reaction after repeated inoculations into rabbits and failed to respond to several of the characteristics of the tubercle bacillus. A. P. OEHLMACHER (Cleveland, Med. Jour., Jan., 1902) says that the mistake may frequently occur unless a very careful examination is made. The bacillus seems to belong to the tuberculosis group. Several similar bacilli have been reported previously, but not when associated with typical clinical cases of tuberculosis.

Agglutination of Tubercle Bacilli.—About four years ago Prof. Arloing, of Lyons, succeeded in obtaining cultures of tubercle bacilli which grew evenly distributed through the culture medium, instead of in the usual clumps, and which demonstrated agglutinating properties when in contact with the serum of tuberculous subjects, human or animal. The fact that by this method a diagnostic proof could be obtained within twenty-four hours would seem of great practical value were it not for the technical difficulties which attend its application. Prof. Koch has more recently devised another method for demonstrating the agglutinating properties of tubercle bacilli, by which he has also endeavored to show that in the human subject it is a relatively simple matter to increase the agglutinating and antitoxic properties of the blood and to exercise in this manner a certain control over immunization trials. A practical application of both methods on a rather large scale has been made by E. RUMFF and L. GUINARD (Deut. med. Woch., Feb. 20, 1902). The tests were made on 107 patients afflicted with pulmonary tuberculosis in various stages, the diagnosis of which had been definitely proved by other means. The answer to the question of the diagnostic value of this procedure is found in the statement that a positive reaction was found in 84 per cent. of all cases tested. In most instances both methods gave the same results. Although it is stated that under ordinary circumstances tuberculous patients, especially those of an advanced type, cannot produce sufficient antitoxins to combat the disease, the authors believe that under proper hygienic, dietetic, and climatic surroundings greater agglutinating powers can be imparted to the blood, which fact may be taken as a measure of increased resistance. This statement is based on the general improvement and increasing agglutinating property found in 65 per cent. of cases of the third degree of the disease. It was also found that in patients who had undergone a successful course of treatment only a very slight amount of agglutinating power could be demonstrated. Whether a negative reaction points to a rapid advance of the disease is still uncertain, as in certain very bad cases an increase in the agglutinating power was noted in a few days, while in others no results were obtained. The authors found that injections of "tuberculin" produced an increase of the agglutinating properties; in five advanced cases tested by comparatively small doses (0.0025, 0.005, and 0.010) a reaction was obtained after three injections even with a dilution of 1:100. Whether this phenomenon points to an increase of the antitoxic qualities of the blood with a consequent increase in its agglutinating properties the authors are not prepared to decide without further trials.

Microchemical Reaction of Tube-casts.—The results of certain experiments in the chemistry of urinary casts are reported by COPLIN (Phila. Med. Jour., Mch. 8, 1902). Based on the results of microchemical reactions he divides all hyaline casts into two groups:

Those which stain faintly with the mucin stain and are usually small, smooth and free from cells and fat, and those which the mucin reaction is sufficiently intense to render opaque. All granular casts that are not fatty give this intense mucin reaction, as do usually epithelial casts. The degree of the reaction in the latter seems to be directly proportionate to the granularity of the cells, which makes it appear that the more advanced the degenerative or necrotic change, the more evident the mucin reaction, and that the mucin itself is a product of this process. Fatty casts are found in various forms, some made up of small, evenly-distributed fat-globules, without any cellular structure, others that contain aggregations of large and small globules, and finally those containing epithelial cells of which the protoplasm or even nucleus shows fat-globules. The reaction tests are in accord with the belief that fatty casts result from fatty metamorphosis of renal epithelium, and it is equally probable that other casts are also the result of necrosis or degeneration of renal epithelium of which the mucin is a conspicuous product. As mucin and fat do not appear to be coincident bodies in the same cast it would seem probable to assume that the presence of one or the other is determined by some condition the exact nature of which is not apparent.

Tetanus Spores in Gelatin.—In connection with the frequent usage of gelatin as a blood coagulant in the treatment of aneurisms or as a hemostatic, attention has been called to the occurrence of tetanus in some of these cases. A series of experiments were made by E. LEVY and H. BRUNS in order to demonstrate, if possible, the presence of the tetanus spores in ordinary, commercial gelatin. They found in four out of six samples tested that the solutions of gelatin in a bouillon culture after from eight to ten days contained spores, which were readily demonstrated by the usual tests and by animal inoculation. The authors comment on the necessity of prolonged sterilization of the gelatin in live steam; they consider the usual time, ten minutes, entirely insufficient.

Simple Method for Examining Milk.—Accurate dilution of milk and plate cultures can be carried out only in a laboratory, and as the bacteria tend to increase rapidly, and there is delay in transmitting to the laboratory, serious errors may occur. WYATT JOHNSTON and F. E. JONES (Montreal Med. Jour., Feb., 1902) have found that a wire of No. 25 gauge, formed into a loop over a No. 18 knitting needle, will take up with great constancy $\frac{1}{1000}$ c.c. of milk. The Board of Health, Quebec, furnishes such a loop of aluminum, sterilized, in a cork test-tube and placed in a mailing-case with a flat-sided Blake vial containing nutrient gelatin. One loopful of ordinary milk or five of Pasteurized milk must be used for an inoculation. The sterilized tube containing the loop of wire is filled with the milk so that it may be tested for preservatives if the bacterial count is low. Complete directions are sent out with the outfit. First-class milk should not contain more than 10,000 bacteria per c.c., although it may be usable if the bacteria do not exceed 100,000. Good Pasteurized milk should not contain more than 100 to 200 bacteria per c.c.

Biological Function of Calcium.—Following up a previous study showing that trisodium citrate prevents coagulation of blood, lymph and milk by chemically immobilizing the calcium salts they contain, L. SABBATANI (Arch. Ital. d. Biol., Tome. xxxvi., Fasc. 3, 1902) has carried on further investigations as to the antagonistic properties of the two substances by their hypodermic, endovenous and peritoneal injection, separately and combined, as well as by their injection into muscles, spinal cord, cerebral cortex, etc. In the course of these experiments it was demonstrated that the toxic effect

of trisodium citrate was entirely neutralized if calcium were injected with it in the proportion of three molecules of the citrate to one atom of calcium; in the same way, toxic effects of the latter were neutralized by the former. It was further observed that the citrate produced excitation of muscles, nerves, spinal cord and cerebral cortex, while calcium caused depression; hence it is concluded that not only is the presence of calcium in its normally minute quantities in the organs indispensable to the functions of the body, but that it has the effect of moderating cellular activity; thus, for example, by rendering calcium in the cerebral cortex inert with the citrate, the electric excitability is increased and epileptic convulsions may be induced.

OBSTETRICS AND GYNECOLOGY.

Comparative Weight of the Newborn.—The results found in the weights of children who are fed on the breast alone, on the breast and other foods and on the artificial foods alone, are reported by BRESSER (L'Obstétrique, Jan. 15, 1902). The experiments were carried out in 258 cases. The children were all under one year and were divided into two groups, those under six months and those between six months and one year. One hundred and eighty-three were under observation for three months and upon these the author bases conclusions. Fifty-one to 65 per cent. of those fed at the breast were above the average; 42 to 56 per cent. of those fed on a mixed diet of breast and artificial foods increased in weight, while only 36 per cent. of those fed on artificial foods alone increased in weight. This shows quite conclusively that the children of the working classes, from which the patients were taken, do far better when fed on mother's milk. These observations were made from the children of mothers who had had at least four previous children and who were well supplied with milk. The author thinks it would be very interesting to compare these results with those obtained from the comparative weights of children of primiparæ or older women. Mixed diet gives better results than mother's milk between six months and a year; 56 per cent. of the children thus fed gained in weight, while only 51 per cent. of the breast-fed children took on weight.

The Passage of Carbon Monoxide through the Fetal Circulation.—The demonstration of the passage of carbon monoxide from the mother to the fetus was made by Gréhant and Quinquad in 1883. They found that a mixture of this gas and air would kill a dog in thirty-five minutes. They estimated the quantity of this gas in the fetal blood and found it to be from five to seven times more than in the maternal blood. MAURICE NICLOUX (L'Obstétrique, Jan. 15, 1902) has given the results of a set of experiments carried out along the same lines. Animals which were pregnant were permitted to inhale an admixture of carbon monoxide and air in varying proportions for different lengths of time and were then decapitated and the amount of this gas in the maternal blood calculated. The gas in the fetal blood was also calculated and found to be in a certain proportion to the amount in the maternal blood. The greater the dilution with the air and the longer the inhalation, the nearer the amount of carbon monoxide in the two bloods corresponded. Thus, say the admixture was of one part of carbon monoxide to 10,000 of air, and the duration of the inhalation was one hour and a half, the author would find the equivalent of 0.75 c.c. of carbon monoxide in 100 c.c. of both bloods. In a proportion 1 to 10, the animal would die in from five to ten minutes and 16.8 c.c. of carbon monoxide in 100 c.c. of maternal blood would be found, whereas only 1.7 c.c. could be extracted from a like amount of fetal blood.

In connection with this fact comes the question as to whether women working in neighborhoods where this gas is present in a more than usual amount are endangering their unborn children. The author shows that carbon monoxide is present in the newborn of Paris. How much of this is normal the author is not prepared to say. The quantity varies from 0. c.c. to 11 c.c. to the 100 c.c. of fetal blood.

The Pregnant Uterus In Situ Postmortem.—The effect of the pregnant uterus on the rest of the viscera of the abdomen is important and thus far our knowledge of it is gained chiefly from frozen subjects. J. G. MOORHEAD (Med. Press & Circ., Feb. 12, 1902) reports the findings in the dissection of a cadaver in the seventh month of pregnancy in which the organs were hardened *in situ* with formalin. On opening the abdomen the uterus was found to be inclined to the right, radiated on its own axis, thus bringing the left ovary and tube against the abdominal wall and the right appendage against the cecum. The summit of the uterus was ten inches above the symphysis pubis, overlapped by the transverse colon and the great omentum. The anterior surface of the uterus was in contact with the abdominal wall in front, and posteriorly the organ was molded on the cecum, right kidney, the vertebral column and terminal part of the ileum. The peritoneum covering the uterus appeared to be of normal thickness. Traced down its anterior wall it was reflected to the back of the symphysis half an inch above its upper margin, where it met the upper margin of the bladder. On each side the membrane was reflected on to the iliac fossa, corresponding here to the base of the broad ligaments. Posteriorly it passed to the rectum at the level of the fifth sacral vertebra; hence practically unchanged from its relation in the non-pregnant state. Anteriorly at first sight it seems to be raised, but on consideration it will be seen that it kept its original relation to the uterus, and appears to be raised owing to the hypertrophy of the organ. The bladder remains behind because it does not hypertrophy. The tubes lay in close contact with the uterus, owing to the bending out of the layers of the broad ligaments. The veins of the broad ligaments, especially the ovarian, were very much dilated. The greater part of the small intestine was found to the left of the uterus. A small length extended half above the organ and beneath the transverse mesocolon. The pelvic diaphragm was not hypertrophied and some support seemed to have been given to the uterus by the obliterated hypogastric arteries, which suspended the organ somewhat like a hammock. The bladder was in relation with the lower part of the uterus, triangular in shape, empty, with its apex directed upward behind the symphysis, and with its base on the anterior wall of the vagina just in front of the place where the uterus pierces it. The anterior wall was convex from side to side and from above downward, and the posterior was concave and molded on the uterus. There were in addition pressure effects noticeable in the veins and in the right ureter. Other than this there were no special changes in the organs.

Reflex Aphonia of Menstrual Origin.—The important changes which take place in the whole body at puberty from the commencement of the functional activity of the genital organs are often appreciable in the organ of speech and phonation, says NIX. (Gazette de Gyn., Feb. 15, 1902). It would seem that the development of the vocal cords were dependent to a more or less degree upon the appearance of sexual activity. The reflex pathological relations between the two functions exist in men as well as in women, but they are found more often in the latter because women undoubtedly have more genital disorders. These conditions are

often found in females at the outset of the menstrual flow, as well as in adult life and at the menopause. Spasm of the glottis, due to a violent congestion of the vocal cords and the whole larynx, which, however, is transient, usually, lasts but a few minutes, disappearing as rapidly as it comes. In adult life vocal disturbances usually come on at the time for the flow to make its appearance, at times when there is irregularity in the flow, whether there is or is not some concomitant pathological condition in the urogenital tract. The author has seen several cases of this character and finds that it is necessary to treat the local conditions, which may run on to chronicity. At the same time, a permanent cure of the vocal disturbance can only be accomplished through a most thorough eradication of the disease in the genital tract. The reflex conditions are brought on through both the nervous and the vascular systems. Most often there is an intense congestion of the postnasal pharynx and sometimes there is more or less marked paresis of the inferior vocal cords.

Extra-uterine Pregnancy.—The danger of allowing the continuance of an ectopic gestation after symptoms of partial rupture have appeared, especially if the death of the fetus is not certain, is well illustrated by a case reported by W. H. HUMISTON (Cleveland Med. Jour., Jan., 1902). The patient had had three or four attacks of severe pain in the lower abdomen accompanied with some bloody discharges and moderate pulse and temperature reactions during the second and third months of pregnancy. She finally, during the fifth month, had a very severe attack, the evidences of internal hemorrhage being so marked that the result of operation seemed very doubtful. Hypodermoclysis of salt solution beneath the breast was at once begun and at the end of the operation two quarts had been injected and most of it absorbed. The placenta was found adherent to the posterior surface of the broad ligament and to coils of intestine. After tying off the broad ligament with the ovarian artery the placenta was entirely removed and the gestation sac packed with iodoform gauze. The patient made a good recovery, but subsequent injections of salt solution were necessary; especial dependence is placed upon this by the author. It is not necessary to clear out the blood and clots from the general cavity, as they are readily absorbed, but the gauze packing should not be removed until a firm wall has been formed around it.

Symphysiotomy.—A series of thirteen successful operations is reported by E. A. AYERS (Jour. Amer. Med. Assoc., March 8, 1902). He performed it on eleven individuals, repeating the operation in subsequent pregnancies on two women, and doing it three times in one case. Infection of the joint did not occur and no death was directly caused by the operation. Three children were lost and eleven saved. Firm fibrous union of pubes was secured in all cases but one. Each patient was kept in bed four weeks. He protests against Cæsarian section as the method of choice and claims that the true mortality after symphysiotomy can be had only after subtracting that due to all preceding efforts at delivery. Properly the operator should select only that method which gives the best results, not in general, but in his hands. He considers the sources of prejudice against symphysiotomy as follows: (1) Wounds about the vulva can be rendered absolutely aseptic and need remain open only until the joint is severed. The approximation of the wound edges by bringing the knees together obviates the necessity for stitches. (2) The subcutaneous method of dividing the joint also reduces the danger of infection. (3) Hemorrhage can be largely avoided if the scalpel be passed along the face of the pubes instead of below it

and thus wounding the bulbus vestibuli, or above it and entering the peritoneal cavity. (4) Perisymphysal lacerations during delivery occasion the greatest anxiety. The relations between pelvic inlet and fetal head should always first be ascertained in order to determine whether a pubic separation of $2\frac{1}{2}$ inches will insure delivery. Full antepartum dilatation of the cervix must also be secured and when forceps are applied to the head the cervix and bladder should be pressed back while the forceps bring the head not so much through the brim as through the cervix. As the separation of the pubes alters the normal mechanism, anterior rotation of the head should be assisted by the forceps. (5) Care in handling both before and after operation will prevent injuries to sacroiliac joints or cause failure of joint union. The author submits certain requirements as necessary to secure the surest and best results: (a) Constant apposition of the pubic bones with even coaptation, but without compression. (b) Ability of the patient to empty bowels and bladder without disturbance of the pubic joint. (c) Freedom of restraint of the body above the pelvis and of the limbs, whereby lactation can be performed. (d) Avoidance of bed-sores.

Strangulation of Uterine Fibroids.—The possibility of this distressing and dangerous accident after parturition should be made an element in weighing the question of the necessity for removing fibroids by myomectomy from young married women. E. REYNOLDS (Jour. Amer. Med. Assoc., Mch. 8, 1902) reports four cases in which this condition was found which lead him to present the following diagnostic points: (1) The appearance early in the puerperium of severe intermittent paroxysmal pains and referred to a definite spot which is found acutely tender; (2) the appearance in a few hours of the symptoms of pelvic peritonitis; (3) the detection of an irregularity in the uterine wall at the tender spot, which can possibly only be made out under anesthesia. The principles of treatment should be: (a) The control of pain by morphine and, if not promptly successful, by brief but profound anesthesia, repeated when necessary; (b) failure of these procedures and an operable condition of the patient should point to immediate myomectomy; (c) if peritonitic symptoms be extreme and operation per abdomen be contraindicated, and if the tumor be accessible from below, its free puncture and the drainage of the contained serum may be relied upon to terminate the attack and permit the safe removal of the tumor at a later date, should this prove necessary.

MEDICINE.

Diagnosis of Scarletina.—From time to time cases are seen which are very difficult to determine. So J. M. DAY (Dublin Jour. of Med. Science, Mch., 1902) enumerates the symptoms. Nausea or actual vomiting is rarely absent. Sore throat may be present without the patient complaining, so an examination should be the routine with children; in scarlatina the pharynx, soft palate, tonsils and hard palate present a red punctiform appearance which is easily recognized. The temperature in the beginning is 100° to 104° F., and the next day it falls, to rise again in the evening. It generally becomes normal by the eighth or tenth day. The pulse is more characteristic, seldom being below 120, and often continuing rapid after the temperature is normal. The rash is never seen on the end of the nose or around the lips, and appears first where the skin is softest, as in the flexure aspect of the arms, the sides of the chest, the lowest part of the abdomen, the upper part of the thighs, and in the axilla. It is almost invariably out by the third day. At the flexed elbow, at Poupert's ligament, and behind the flexed knee, a brown-

ing along the folds of the skin is noted. The tongue is coated heavily, and the injected papillae show through; when the coating strips off, the true "strawberry" tongue is seen. This is a red (not coated) tongue, bearing red papillae. In a doubtful case the author excludes scarlatina if the patient has had the disease; if not, he examines for rash on palate, backs of hands or sides of fingers, browning of the flexures, stripping of the tongue, and reddish spots, smaller and more acuminate than rose spots, on the lower limbs. These, with vomiting or nausea, justify isolation. Otorrhea is sometimes the first marked manifestation in mild cases. In measles the rash appears on the fourth day of catarrhal symptoms and appears first on the face and upper parts of the body. It consists of raised, reddish-brown crescentic spots. In rubella, the pulse is slower, and the patient does not feel ill in proportion to the amount of the rash. The peeling of the tongue is absent, and vomiting is rare. Other diseases occasionally closely simulating scarlet fever are meningitis, typhoid fever, septicemia, rheumatic fever, urticaria, and erythema, but these can be distinguished by the course of the disease.

Intermittent Claudication.—Referring to the occurrence of this condition in the horse and its rare consideration in the literature of human medicine, WILLIAM OSLER (Montreal Med. Jour., Feb., 1902) describes two cases, one occurring in a man, the other in a woman. The man had vomiting, pain in the abdomen, general arteriosclerosis and an aneurism of the abdominal aorta. He gave a history of syphilis. Finnie inserted ten feet of wire into the aneurism and passed an electric current for an hour, following which the patient improved greatly. About a year later he reported that after walking a certain distance his legs would give out completely; after resting he would proceed a short distance, then rest again. There was no paralysis, but an uncontrollable feeling that he could not take another step. There was a sensation of dead, heavy weight in the legs, but no cramps. Walking in the house did not bring on the condition, only walking in the street. The woman had mitral stenosis and general arteriosclerosis, with absence of pulsation in the dorsal arteries of the feet. She had attacks of intermittent lameness with numbness and tingling in the feet, and complete inability to walk till rested. The right leg and foot have been somewhat blue with much pain, which is intensified if the leg hangs down. The treatment was warmth to the legs and careful friction, and she did remarkably well.

Splenic Hypostatic Albuminuria.—The curious condition of albuminuria while the patient is lying down is rather uncommon in one sense, and yet with reference to intra-abdominal conditions is readily understood from a purely mechanical standpoint. H. D. ROLLESTON (Lancet, Mch., 1, 1902) reports a case in which this form of albuminuria was of splenic origin. The explanation given by Falkenheim is that when the spleen is enlarged it may press upon the left renal vein, interfere with the return of venous blood from the kidney and thus cause albuminuria. Rolleston states that he has also had two cases, with cirrhosis of the liver and splenic anemia respectively, presenting enlargement of the spleen, and each a hypostatic albuminuria. The diagnosis of the condition is important. The bladder should be empty when the patient gets up; otherwise an admixture of the albuminous urine excreted while in the recumbent position with the normal urine of the erect position will occur and the patient appear to have a continuous albuminuria. Again, the albuminuria must not appear until after the recumbent position has been maintained for some time. It may also be intermittent, tending to prove that the spleen need not always obstruct the vein.

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THE X-RAYS IN MALIGNANT DISEASE.

We present this week a full report of a meeting of the Harvard Medical Society of New York City at which the subject of the employment of the X-rays for the treatment of malignant disease was very fully discussed.

There has been almost from the first introduction of the X-rays into medicine a feeling that this powerful agent should prove of practical therapeutic value. This feeling is evidently not doomed to be entirely disappointed and recent observations show that the curative possibilities of this form of electrical energy are very great. Conservative observers find that practically every form of reasonably limited external cancer is improved by exposure to the X-rays. This means not only that relief of annoying symptoms is afforded but that actual disappearance of cancerous nodules and rapid healing of malignant ulcerative processes takes place. While for extensive cancerous involvement, or for deep-seated malignant tumors, treatment by this means is not encouraging as regards ultimate favorable prognosis, exposure to the X-rays never fails to bring relief of pain and this relief often endures for several days after the treatment.

All this promises well for a new remedy for these most hopeless conditions. For in spite of

great advances in surgery in recent years the attitude of surgeons generally and especially of those with most experience has been very pessimistic as regards radical cure in these cases. It is true that surgical intervention is most hopeful in just the class of cases in which the X-rays promise to be of service, but a new and promising method of treatment will prove welcome, not only to medical men but even to those who make a specialty of surgery. For one reason, the absence of cutting will encourage patients to put themselves under medical care much sooner than has hitherto been the case.

Practically the only hope of radical cure in malignant disease is founded on the treatment of the condition at the earliest possible moment before involvement of deep tissues or metastatic extension has rendered the prognosis doubtful no matter what method of treatment is employed.

The use of the X-rays in malignant disease has its limitations. Dr. Coley's report with regard to cases of rapidly-growing sarcomata shows that these tumors are as a rule very little or not at all affected by X-ray treatment. Slower-growing sarcomata are on the other hand very favorably affected. As a practical rule, the slower the growth of any form of malignant neoplasm the longer it will take to influence it, the more exposures to the X-rays will have to be made and the more prolonged the treatment will have to be in order to secure radical cure and guard against relapse. Some of the more chronic epitheliomata of the face or old persistent rodent ulcers may have to be treated for months to assure lasting benefit. There is no doubt, however, that when the X-rays are curative the eventual cosmetic result is much better than any that can be attained even by ingenious plastic surgery, unless the defect in the tissues has been very large.

There remains the question whether in operable cases the X-rays should be preferred to the knife. When the patient is ready to submit to either form of treatment and the malignant neoplasm is limited in extent and favorably situated for operative removal, it would seem the part of conservative therapeutics in the present unsettled state of knowledge to advise operation, reserving the X-rays for the first sign of recurrence. Patients will be very willing to submit subsequently to the X-rays without delay and will not fail to keep under observation from dread of the discovery of recurrences, as they otherwise are wont to do. When patients have a deep-seated objection to operation and show a tendency to

put off treatment for this reason the X-rays should be employed and the earlier the more hopeful is the ultimate prognosis.

There would seem to be an especially wide field for the therapeutic effect of the X-rays on enlarged glands in cancer cases. In most of the reported cases these have cleared up so satisfactorily as to suggest the idea that the enlargement was due, not to the cancerous infiltration, but to an irritive inflammatory process set up by the absorption into the lymphatics and detention in the lymph-nodes of secondary inflammatory products from around the true cancer area. This suggests the idea that the X-rays may prove useful in enlarged glands consequent upon chronic inflammatory processes generally. Tuberculous cervical glands, for instance, may yield to the new agent and some good results in this line have already been reported. This is not surprising, as lupus vulgaris has in a number of reported cases been cured. Hodgkin's disease in an advanced stage yields to the action of the X-rays, and not only do the various external glandular enlargements rapidly diminish in size but the spleen also is lessened in all its diameters and the patient's general condition much improved by the resultant absence of discomfort.

The employment of the X-rays is, then, most promising; but there is no doubt that during the next year or two more harm than good will result from their use. Charlatans and the inexperienced will use them without due precautions and for many conditions for which they are utterly unsuitable. Sufferers from internal cancer, especially the victims of gastric and uterine malignant disease, will be buoyed up with false hopes until whatever chance there may be of radical cure by operative procedure is long past. No one but a medical man of some experience in the therapeutic use of the X-rays should be allowed to use them for curative purposes. Above all, physicians should be wary of suggesting to patients that an electrician who happens to have some experience in taking X-ray skiagraphs should be permitted to apply the rays with hope of possible benefit.

A therapeutic treasure of the greatest importance has been revealed and it behooves the medical profession to take care to discover its exact limitations and indications and not to allow it to be brought into the serious disrepute that has attached to every new discovery in therapeutics of recent years, because of the hasty overzealous enthusiasm of the inexperienced and unknowing.

SURGICAL INTERVENTION IN TUBERCULOSIS.

At a meeting of the Harvard Medical Society of New York City (see MEDICAL NEWS, Jan. 25, 1902) there was some discussion of the present status of surgical opinion with regard to operative intervention for the amelioration or radical cure of tuberculous processes. The prospect for cure of tuberculosis of the lungs has become so much more hopeful from a medical standpoint especially in incipient cases that there has come to be a certain feeling of confident expectancy that even in advanced conditions much may be accomplished in the near future with the help of conservative surgery. The discussion mentioned shows, however, that this expectancy does not rest upon any promising basis in the present attitude of surgeons towards tuberculous processes generally and especially those forms of tuberculosis in which operative intervention has been most commonly resorted to. The possibility of successful surgery of tuberculous lungs becomes very distant when we realize that the current of the most conservative surgical opinion the world over is setting more and more against any interference with Nature's curative and resistive efforts in tuberculosis anywhere in the body.

Operative intervention has been found in most cases to be of doubtful utility, while in some cases it has proven positively harmful. The treatment of cold abscesses has been in dispute, but more and more the expectant method has gained advocates. For years there has been a school of orthopedic surgeons who have deprecated operative treatment of tuberculous joints and have insisted that expectant methods properly directed give the best results as regards ultimate disposal of the focus of disease and the subsequent usefulness of the joint. Very recently there has been a reaction against the surgical treatment of peritoneal tuberculosis and the widely-practised laparotomy for the condition now seems likely to fall into innocuous desuetude.

The story of the rise and decadence of operative procedures for tuberculous peritonitis is a typical chapter in therapeutics. It illustrates how complex is the problem of helping tuberculous patients and how easy is self-deception with regard to the benefit that may accrue from any method of treatment. Some three years ago Dr. Max Jaffe, in an article on the value of laparotomy as a therapeutic measure for tuberculous peritonitis, published in the *Sammlung klinische Vorträge*, No. 211, Neue Folge, showed that

German surgical thought was beginning to doubt that much good was ever accomplished by operative intervention in this condition. When König first introduced the operation to the medical profession in his classic article published in the *Centralblatt für Chirurgie*, 1884, he warned surgeons as to the possibility of self-deception and thought laparotomy indicated only in selected cases. Some six years later König was able to collect from medical literature over 130 cases in which laparotomy had been done for tuberculous peritonitis in various forms. He pointed out, however, that the ultimate results were not as good as the statistics gathered within a year or so after the operation might seem to show. If more than two years were allowed to elapse before the case was reported the recoveries were reduced from nearly 70 per cent. to scarcely more than 25 per cent.

Skepticism with regard to the operation has continued to grow, especially in recent years. In America opinions have been rather conservative. Bottomley in the Medical and Surgical Reports of the Boston City Hospital (see *American Medicine*, Feb. 15, 1902, p. 265) gives a consideration of 28 cases of tuberculous peritonitis treated by laparotomy and seen at least a year after operation. He concludes from his results that cures may be expected in from 30 to 40 per cent. of the cases. Even this not very promising outlook for surgical benefit is higher than that justified by such foreign observers (quoted by Bottomley) as Treves, who had 35 per cent. of recoveries, Wunderlich, who had 23.3 per cent., and Czerny, who had 26.8 per cent. Fenger, in an article in the *Annals of Surgery* for November, 1901, is inclined to think that laparotomy can accomplish very little that will not be effected quite as well by simple puncture and drainage of the ascitic fluid, for it is only in cases of simple tuberculous ascites that operative interference does any good.

Fenger quotes a striking article from Borchgrevink (*Bibliotheca Medica*, Abtheilung E. Chirurgie, Heft. 4, klin. und experiment. Beiträge zur Lehre von der bauchfell Tuberculose, Stuttgart, 1901) who does not hesitate to condemn laparotomy for tuberculous peritonitis as entirely useless. Practically all surgeons are agreed that for adhesive or ulcerative tuberculosis of the peritoneum laparotomy is of no avail and not infrequently seems to augment the process in the abdomen or to light up a tuberculous focus elsewhere in the body. Borchgrevink, however, goes so far as to say that even "serous

tuberculous peritonitis is a domain which surgery must hand back to the internist with thanks for the splendid opportunity which a misunderstanding gave to the medical profession, by means of laparotomy, to study tuberculosis in one of the large cavities of the body." It would, indeed, be surprising to find that laparotomy had done absolutely no good for tuberculous peritonitis despite the many favorable reports from great conservative surgeons. If we consider the history of the therapeutics of tuberculous processes generally, the disappointment involved would be no more than might have been expected from the repeated "lessons of undeceit," to use an expressive German phrase, that make up the story of successive "cures" for tuberculosis. It seems certain that active interference of any kind with tuberculous processes rather hinders than helps Nature's curative efforts. The only therapeutics that can be looked to with confidence is the use of roborant measures that increase resistive vitality, but leave direct curative action to those as yet mysterious methods of Nature that are often so effective if properly encouraged.

QUACKS AND ARISTOCRACIES.

IN defiance of the well-known fact forcibly pointed out by Jacoby ("Selection in Aristocracies") that environment and intermarriage of aristocracies, royalties and plutocracies tend to produce mental and physical degeneracy and notably that mysticism which predisposes to an admiration for quackery, the assumption is but too frequently made that aristocracy, plutocracy and royalty are *prima facie* evidence of intelligence.

Jefferson points out that royalties have long had a predilection for quackery. Queen Anne's weak eyes, he remarks, caused her to pass from one empiric to another for the relief they promised to give and in some cases even persuaded her that they had given her. She had a passion for quack oculists. Happy was the advertising scoundrel who gained Her Majesty's favor with a new collyrium! For, of course, if the greatest personage in the land said that Professor Humbug was a wonderful man, a master of his art and inspired by Heaven to heal the sick, there was no appeal from so eminent an authority. How should an elderly lady with a crown on her head be mistaken? Do we not hear the same arguments every day in this enlightened generation when the new chiropodist or rubber or inventor of a specific for consumption points to

the social distinctions of the dupes as conclusive evidence that he is neither supported by vulgar ignorance nor afraid to meet the most searching scrutiny of the educated? Queen Anne was so charmed with two of the many knaves who by turns enjoyed her countenance that she had them sworn in as her oculists in ordinary; one of them she was so silly as to knight. William Reade, originally a botching tailor and to the last a very ignorant man (as his "Short and Exact Account of All the Diseases Incident to the Eyes" attests); rose to knighthood and the most lucrative fashionable physician's practice of his period. It was true that Sir William Reade was unable to read the book which he had written through an amanuensis, but many wealthy people who listened to his sonorous voice behind his lace ruffles and gold-headed cane and saw his coach drawn along by superb horses thought him equal in every respect to Pope and Swift. Anne's other sworn oculist was Roger Grant, a prodigiously vain cobbler who had his likeness engraved in copper. He was in the habit of getting hold of a poor person of imperfect vision, whom, after treating with medicines and half crowns, he induced to sign a testimonial to the effect that he had been born stone blind and had never enjoyed any sight until Providence led him to Dr. Grant, who cured him in little more than a month. Through the usual clergyman's proclivity for quacks many signed the certificates as witnesses. If they did not "Dr." Grant himself saved them the trouble by affixing their names.

In the Georgian epoch of the seventeenth century the drunken Madam Mopp, the "bone-setter" or osteopath, enjoyed the patronage of the aristocracy, although she was satirized by Hogarth in his "Company of Undertakers." In the same century there were prototypes of Dowie and the Christian Scientists; indeed, these last are survivals of the medicine man which have persisted throughout all the stages of human evolution.

The German Society for Protection of Physicians, which has lately taken up quackery among the aristocrats and plutocrats, is in error in assuming this to be the product of nineteenth century degeneracy. The quack, as Carlyle remarks anent Cagliostro, comes in for his share in all ages. Every financial revolution places the mystic tendencies of primitive man in the foreground, since the moneyed Philistine is peculiarly predisposed to the occult notions of primitive man.

ECHOES AND NEWS.

NEW YORK.

The Late Prof. Paul F. Munde.—The Medical Board of the New York Skin and Cancer Hospital, at a meeting held March 29th, adopted the following resolutions: *Whereas*, Dr. Paul F. Munde, a member of the Consulting Board of our Hospital, has been removed from us by death; *be it Resolved*, That in the death of Dr. Munde the Board has lost one of its most eminent members, one whose professional attainments had given him a high reputation both at home and abroad, and whose noble character and conscientious life work had endeared him to his associates and friends. *Resolved*, That our deepest sympathy is extended to his family in their great sorrow, and that a copy of these resolutions be sent to the medical journals for publication:

Committee. { J. E. JANVRIN, M.D.,
 { L. DUNCAN BULKLEY, M.D.

Plans to Keep City Clean.—At the regular meeting of the Women's Health Protective Association of New York held in the Academy of Medicine, Tuesday afternoon, Commissioner-of-Street-Cleaning Woodbury, in a half-hour talk, outlined the measures which he is inaugurating thoroughly to clean the city. In the course of two weeks he will deliver in New York 200,000 circulars, explaining at length the law prohibiting the casting of garbage or refuse of any sort into the street, and detailing the penalties for violations of the same, most of which provide for a fine of \$10. "One of these circulars," he said, "will be placed in every house, and the man who delivers it will be required to obtain a receipt from the householder. Should the latter disregard the circular to the extent of a violation, the next call will be made by a policeman." Commissioner Woodbury then described the incinerating plant which will soon be in operation at the foot of Forty-seventh Street. He said that the city's condition will continue to be insanitary until there is in general operation a system for separating the ashes from the garbage, and then reducing the garbage to ashes instead of throwing it into the sea.

Manhattan Dermatological Society.—A regular meeting was held Friday evening, March 7, 1902, at the residence of Dr. A. Bleiman, with Dr. W. S. Gottheil in the chair.

Dr. Oberndorfer presented a case of eczema seborrhoicum annularis; the patches were circular and grouped; each patch was scaly with a white scaly center; eruption on back, chest, scalp, face and ears. Drs. Cocks and Abrahams call it pityriasis rosea. Dr. Bleiman regards it as a case of eczema seborrhoicum; in pityriasis rosea the eruption is pale pink and not acutely red as in present case. Drs. Sobel and Gottheil agree to eczema seborrhoicum annularis. Dr. Pisko regards it as a case of tinea versicolor, the peculiar appearance being due to treatment.

Dr. Sobel presented a somewhat similar case in a male; the eruption, however, was not grouped in circles as in the preceding case; eruption on chest, scalp and ears; presented as eczema seborrhoicum. The diagnosis of eczema seborrhoicum was concurred in.

Dr. Gottheil showed a woman with an eruption of irregular crescentic patches with light centers, situated upon buttocks and thighs. He calls it pityriasis rosea; making a distinction between this and herpes maculosus et squamosus. Dr. Cocks agrees to the diagnosis. Dr. Abrahams also agrees and further stated that coalescence of patches was more typical in pityriasis rosea than herpes maculosus. Dr. Sobel calls it disseminated ringworm and not pityriasis rosea. Dr. Bleiman takes exception to the statement that coalescence of patches

was more typical in pityriasis rosea than herpes maculosus. He regards this case as ringworm. Dr. Pisko calls it pityriasis rosea or herpes maculosus, making no distinction between the two. Dr. Gottheil regards the two last-named affections as distinct; many supposed cases of herpes maculosus do not show the mycelium. Pityriasis rosea is non-parasitic.

Dr. Geyer presented a woman upon whom an operation for carcinoma of left breast was performed nine years ago; apparently well until three months ago, when after a trivial injury resulting in a lacerated wound of said breast there developed nodular growths and pain; pain severe and incessant; the wound was a foul-smelling sore and discharged copiously; the right breast became involved as shown by hardness, pain and nipple retraction, the skin was intact, however; there was no axillary adenitis and cachexia moderate. Dr. Geyer spoke of the remarkable effect of the X-ray in this case. After the sixth treatment there was marked improvement in the appearance of the wound; discharge diminished, now almost dry and the wound converted into a clean one; pain considerably ameliorated; the nodules have disappeared.

In the right breast the hardness is only slight and nipple retraction no longer apparent. Dr. Geyer has great faith in this mode of treatment and believes it especially indicated in so-called inoperable cases. One disagreeable feature was the possible production of dermatitis with or without slough. He would guard against its occurrence by the use of rubber shields instead of metallic ones, which he believes are better for the purpose.

Dr. Cocks said that X-ray work was still in its infancy; he thought it had a certain field in superficial growths, but in deep-seated tumors, he failed to see how it could influence the existing adenitis.

Dr. Kinch said that X-ray burns were usually deep seated and produced a condition known as white gangrene; he related a case of sarcoma of jaw which got well after ligation of the carotid. Dr. Gottheil believed the left breast to be tuberculous; it was too soon to speak of actual results in this field of work; apparent good results are often followed by relapse, and dermatitis and gangrene have developed six months after application. Dr. Sobel expects much from the X-ray treatment; better results were to be expected in superficial growths; with deep-seated ones he would give preference to surgical methods. Dr. Abrahams regarded the left breast as tuberculous; the absence of adenitis and of nipple retraction and the general appearance did not favor diagnosis of cancer. The X-ray is destined to remain as a permanent therapeutic agent; it surely ameliorates the pain, influences symptoms and converts sloughing tumors into dry and clean ones.

Dr. Geyer will report subsequently on microscopical findings.

Dr. Abrahams presented a case for diagnosis: Female, eleven years ago, sustained a slight injury to finger-tip, followed six months later by discoloration of finger-nail; the nail has so remained; it is bluish, the matrix bulges and there is considerable pain, which affects the entire arm; the finger-tip is constantly wet with perspiration; in all other respects finger is normal. Treatment of no avail. Dr. Abrahams believes it to be a trophoneurosis.

In the discussion the consensus of opinion was that it was a new growth, exact nature unknown; it was suggested to remove a portion of matrix for examination. Dr. Geyer spoke of a somewhat similar case which showed a dark spot upon an X-ray negative and when operated upon an encapsulated needle point was found. Dr. Geyer will obtain a radiograph for diagnostic purposes.

Dr. Gottheil showed a specimen under the microscope; a hair removed from the scalp of a patient with typical alopecia areata showed mycelium.

PHILADELPHIA.

City Vaccination Bills.—The money available for liquidating the smallpox expenses of the city is now being rapidly paid out. One of the regular vaccine physicians has received \$2,368.80 for 5,922 vaccinations between July 31 and December 31, 1901. Other bills were \$1,500 and \$1,000 for the same period. The auxiliary corps of vaccine physicians appointed during the height of the epidemic have not yet been paid and some of them are expressing much dissatisfaction.

Children's Hospital.—A recent staff change has been the election of Dr. James P. Hutchinson as visiting surgeon.

Calcium in Tuberculosis.—At a recent meeting of the Pathological Society Dr. A. C. Crofton detailed the results of a few experiments with calcium and tuberculous material made during the investigation of another subject. The fact that it is impossible to prepare albumose free from calcium except by chemical means and that such albumose has a remarkable chemical affinity for calcium led to the question of whether calcium was excreted by tuberculous subjects. Experiments on dogs shows that the excretion of calcium is considerably increased by tuberculosis, especially when the breaking down of tissues is active. When decalcified albumose is injected into a subject a violent reaction with high temperature similar to the tuberculin reaction is obtained. If calcium be added no reaction follows. It is apparently true, then, that a protective process is caused by calcium in tuberculous subjects, the changes causing high temperature, etc., being essentially neutralized by that drug. The therapeutic suggestion based on this fact is that calcium salts in fairly large doses be given to tuberculous patients.

Regulation of Barber-Shops.—It is stated that Councils are soon to consider a bill providing for the sanitary regulation of barber-shops in this city. It provides for regular visits of inspectors after the shops have been registered and licensed.

Philadelphia Neurological Society.—At the March meeting a paper by Dr. S. Weir Mitchell described "The Muscular Factors Concerned in Ankle-clonus." When examining a patient of Dr. Hinsdale it was discovered that the soleus muscle alone was active in producing ankle-clonus, the gastrocnemius, as before supposed, having no part in the movement. This led to the investigation of the same question in other spastic cases and in all the same result was obtained. Proof can be obtained by grasping the muscles separately, preferably in thin persons. The explanation is thought to lie in the fact that the soleus is inserted on the tibia and is not relaxed when the leg is flexed as is the gastrocnemius because of its insertion on the femur.

A New Scheme of the Zones and Centers of the Human Cerebrum.—Dr. Charles K. Mills presented a preliminary note, with explanatory drawings, of the new scheme of the cerebral zones on which he is now at work. The scheme is based on the recently-acquired knowledge of cerebral localization in conjunction with Flechsig's association areas. Dr. Mills emphasized his firm belief in the theory and in the further possibilities of localization. The location of a higher psychical area, a region for concrete concepts, etc., were detailed. Dr. Mills believes that the stereognostic sense, with other similar powers, belongs to the group of concepts. It is a sense built up out of others by evolution, and is really a combination instead of an entity in itself. To this class belong orientation, object-imagery, etc. The new scheme of the cerebral zones is to give definite

methods for investigation concerning the higher psychical centers and concrete concepts.

Dysentery.—The meeting of the County Medical Society, March 26th, was devoted to a symposium on dysentery, Dr. William Osler, as the invited guest of the Society, speaking on the amebic variety of that disease. Following the meeting a reception was tendered Dr. Osler at the University Club.

Amebic Abscess of Liver with Rupture into the Lung.—This case, with exhibition of the patient, was reported by Dr. L. N. Boston. The patient was a man of twenty-one, a soldier, returned from the Philippines. He had had a cough for some time, followed by many of the symptoms of lobar pneumonia, the temperature, however, was subnormal. Amebæ were found in the profuse expectoration. Recovery has progressed very satisfactorily.

Bacillary Dysentery.—Dr. Simon Flexner spoke on this subject. Etiologically there are the catarrhal forms, with no specific cause, the acute, diphtheritic, or pseudo-membranous, and the chronic. In the acute form a specific organism not found in the normal intestine and which can be separated from the typhoid bacillus and the colon bacillus is found. This is the bacillus which has been isolated in Japan, the Philippines, Germany, Porto Rico, and this country. The great proof of the existence of this organism is that its presence causes the development in the blood of the property of agglutination similar to that property in typhoid fever. When these cases go on to ulceration, as they frequently do, the organism is detected with difficulty and the specific reaction with the blood is very difficult to obtain. In cases of dysentery not of acute origin this bacillus is not found, but the ameba coli is obtained. The differentiation of the two is based on the definite series of clinical phenomena, the pathological changes, the finding of the micro-organisms, and the agglutination caused by the one. The bacillary form can rarely be produced in animals. Death is caused, but dysentery does not develop, except rarely in a mild form. An interesting question has been regarding the variety of the terminal dysentery in many cases of Bright's disease, cirrhosis, etc. This has been determined to be the bacillary form.

Amebic Dysentery.—Dr. Osler spoke first of his having recognized and had charge of the first case in this country in 1890. He briefly reviewed the last twelve years' experience with dysentery at the Johns Hopkins Hospital. During that time 93 cases were admitted, though probably twice that number were treated at the dispensary. Of these only 11 were females and 9 were colored. Patients do not often die of dysentery *per se*. Of the 93 cases 23 had abscess of the liver. The points of difference from the bacillary form are well marked. (1) The amebic form does not occur in widespread epidemics; (2) it rarely runs an acute course; (3) it kills more frequently by its complications; (4) the amebæ are found in the stools or liver abscesses; (5) the serum reaction with Shiga's bacillus is absent in the amebic form. Of the two cases of hepatopulmonary abscess occurring in the 93 cases, one recovered and one died. The question in these cases is that of operation, but the physical signs are very obscure. This for one reason is due to the process being high in the vault of the diaphragm.

Treatment of Dysentery.—Dr. H. A. Hare spoke on this subject. As to diet, milk is not always as useful in diarrhea as is thought, from the fact that curds are formed, which prove irritating. If given in dysentery milk should be well diluted or peptonized and given frequently and in small quantities. Dr. Hare then considered briefly several plans of internal treatment—that by ipecac, the purgative plan, and intestinal

antiseptics being the chief. Each of the first two acts well in certain cases. The third does not fulfil the claims made, antibacterial serum in the bacillary, and quinine in the amebic form may be of service. Local treatment is of great value. Dr. Hare has had good results from the use of sulphocarbolate of zinc, gr. xx to the pint of irrigating fluid. This is followed by a ten-grain iodoform suppository. The irrigation must be given high and slowly, at least fifteen minutes being used and a longer time is still better. This point was also emphasized by Dr. Osler. A hydrostatic pressure of six inches or a foot is sufficient; a large quantity of fluid can be injected high in the bowel if these precautions be taken.

CHICAGO.

Autopsy on the Late Dr. Christian Fenger.—The autopsy on Dr. Fenger confirmed a diagnosis made by a skiagraph last fall. At that time he had an attack of colic, which he thought might be attributed to gall-stones, and a skiagraph taken by Mr. Fuchs, the expert skiagrapher, showed small dark shadows in the region of the gall-bladder. Three gall-stones were found in the gall-bladder at the autopsy.

Influenza.—The so-called "pink eye," which has been increasing in prevalence for some weeks, is only another manifestation of the influenza bacillus. The Department of Health advises that every case of "pink eye" be at once subjected to a bacteriologic examination for the influenza bacillus. If this be found in the secretions, the indication for treatment is obvious, and a cure may be effected within forty-eight hours. These examinations are made in the laboratory for physicians without charge and the results are telephoned without delay.

Smallpox Among Negroes.—The Commissioner of Health reports that with only 1.75 per cent. of the total population of the city, the colored contingent has furnished nearly 80 per cent. of the last group of smallpox cases. Between March 4th and March 22d there were 34 cases discovered, 7 white, and 27 colored.

An Accredited College.—The Royal College of Physicians of London and Royal College of Surgeons have placed on their limited list of accredited colleges the Northwestern University Medical School of Chicago.

Radical Operation in Chronic Otorrhea.—At a meeting of the Chicago Medical Society, held March 26th, Dr. William L. Ballenger presented two cases of chronic otorrhea healed by the radical method. The first was that of a man aged twenty-six, who had had a chronic discharge from the right ear for eighteen years. The infection originated from an attack of scarlatino-diphtheria. Local treatment was of no avail. Patient was refused life insurance on account of the chronic otorrhea. He was operated on at the West Side Hospital, December 28, 1901, by the Swartz-Stacke or radical method. There was considerable granulation tissue in the middle ear, attic, antrum, and mastoid cells. The roof of the antrum was necrosed. The handle of the malleus and the long process of the incus had been destroyed by necrosis and were removed. All granulation tissue and necrosed bone were carefully removed also. The post-superior incision in the cutaneous meatus was extended for about one-quarter inch into the concha of the auricle. An incision at right angles to this was made in the concha, thus converting the incision into a T-shaped one. The cartilage and fibrous tissue in the angles of the "T" were dissected away to render the skin-flaps thin, so as to afford plenty of room at the conchal opening for dressing and subsequent inspection of the antral and mastoid wounds. The meatal skin-flaps were anchored by deep silkworm sutures, and the post-auricular incision closed. A dry iodoform gauze dressing was intro-

duced through the conchal-meatal opening and the external dressings and bandages were applied. Moderate orbicular and facial paralysis appeared on the sixth day after the operation and disappeared on the sixteenth day. Thirty-one days after the operation the antral mastoid wound was dry and epidermized. The mucosa on the inner wall of the middle ear was left intact and still secretes mucus. There is some tubal catarrh which still persists. The case was shown to illustrate the advantages of doing the radical operation and closing the post-auricular wound at once, applying the dressings through the conchal-meatal opening. External dressings may be dispensed with at the end of from ten to twenty-one days, thus enabling the patient to return to his avocation with a minimum loss of time. The disfigurement by this method is slight as compared with those cases dressed through the post-auricular wound. The second case was that of a boy, aged twelve years. Aural discharge began when one year old, following an attack of scarlet fever. Three years ago he was advised by Dr. Chisholm of Baltimore to undergo the radical operation. The operation was done January 6th at the West Side Hospital, in much the same manner as described in the first case, except that the incision was not extended so far into the concha. Four weeks ago he had an attack of mumps which reinfects the mastoid antrum and wound, the surface being red and granular. This is subsiding, however, and will no doubt in a short time regain its former condition and become dry and epidermized.

Health Department Receives Gold Medal from Buffalo Exposition.—Chicago's Health Department again has won glory in an international exhibition, Commissioner Reynolds having received from the directors of the Buffalo Exposition a certificate awarding to his department the gold medal on the exhibit of means used in sanitation and the handling of contagious diseases. Dr. Reynolds had on view maps, charts, samples of the literature circulated by the department, specimens of the postal cards used, and other articles used by the department in its work against disease, and the superior jury was unanimous in giving the palm to the Chicago department. The medal will be forwarded on payment of the cost. The department won a similar prize at the Paris Exposition. All the large cities were in the competition.

Will of Dr. Fenger.—According to the will of the late Dr. Christian Fenger, he left \$110,000. The larger proportion of this amount is invested in real estate. His wife is made the sole executrix without bond.

Translation of Dr. Senn's Book into Spanish.—Dr. Juan Redondo, of Madrid, an eminent surgeon, has translated Dr. Nicholas Senn's book on the Spanish-American War into Spanish. We regret to note that the illustrations which appeared in the original volume have not been incorporated in the Spanish edition.

Resolutions in Memory of Dr. Fenger.—The following resolutions were adopted by the Medical Staff of the Evanston Hospital, on the death of Dr. Christian Fenger: "Resolved, That in the death of Dr. Fenger the Hospital loses one of its ablest counselors and most brilliant surgeons. For his distinguished services in pathology and surgical science he was knighted by an appreciative King, and honored by the profession of two continents. The works of our eminent associate are his grandest memorial, and their influence the fittest benediction. We do not attempt to measure the ennobling effect of such a life, nor to fathom the far-reaching power of such enlightened service as his to mankind, but would simply offer this expression of his worth, that, as a testimonial, it may be entered upon the minutes of the Evanston Hospital Association and

extended to his family as a mark of our sympathy and esteem."

Communicable Diseases of Children.—The contagious diseases of childhood continue to be unusually prevalent; scarlet fever especially is endemic in many parts of the city, and, together with measles and whooping-cough, is of a severe type, with a high mortality-rate. There were twenty-nine deaths from the four principal communicable diseases of the young reported to the health department last week, as against only fourteen in the corresponding week of last year.

A Study of Goiter.—Dr. William Cuthbertson read a paper on this subject before the Chicago Medical Society, March 19th. He said goiter was a non-inflammatory enlargement of the thyroid body, either general or partial. He divided goiter clinically into (1) vascular; (2) hypertrophic or parenchymatous, (a) simple, (b) miasmatic, (c) exophthalmic; (3) adenomatous, cystic; (4) pneumatic; (5) malignant. The goiter of puberty and pregnancy belongs to the vascular and simple hypertrophic types, and formed the principal subject for consideration in the author's paper. The different forms of treatment of the various tumors of the thyroid gland are about as numerous as the writers on the subject. With the exception of the surgical cases, the treatment of goiter seems to have been purely empirical, no definite classification with its appropriate treatment apparently having been attempted, with the exception of the iodides and iodine having been recognized as a specific. Dr. Cuthbertson found in one case that *hydrastis canadensis* proved efficacious in effecting a cure in a goiter of pregnancy, and this led him to the investigations which he had detailed. In each of the twenty-five cases of goiter of puberty and pregnancy which came under his care, a cure was effected in from six weeks to three months by the administration of one and one-half grains of the dry extract of *hydrastis canadensis*, three times daily, after eating. He was well aware that some of these cases might have gotten well without treatment, but he made no selection of them, taking them as they presented themselves. One of the cases which was cured by this means had been treated with iodine and the iodides and with thyroid extract, becoming much worse under both forms of treatment. Immediately on instituting the *hydrastis* treatment, the patient began to improve and was cured in six weeks. He presented *hydrastis canadensis* as a new and successful remedy in the goiter of puberty and pregnancy.

Congenital Dislocation of Both Hips.—Dr. Edward H. Ochsner read a paper on this subject in which he reported the case of a little patient suffering from congenital dislocation of both hips reduced by the Lorenz bloodless functional weight method about three and one-half years ago. At the time when the treatment was begun the little patient was four years and three months old. The reduction was accomplished without great difficulty, but the retention of the hips in the true acetabula was very hard to accomplish. Finally this was successful, however, and the thighs, which were at first dressed at 90° abduction with slight overextension, were slowly drawn down to their normal position and in the course of about two years from the beginning of the treatment the functional result was practically perfect. The child could walk without fatigue as well as other children. The lordosis, prominence of abdomen and hips disappeared entirely and the patient became perfectly normal. About three years after beginning the treatment the patient succumbed to an acute gastro-intestinal disturbance and the author was able to demonstrate a pelvis, showing well-developed acetabula in their normal position and the hips held snugly in this by the strong, well-developed cap-

sular ligaments, proving that in this instance, at least, not only a practically perfect functional result was obtained, but also a practically perfect anatomical result.

Foreign Bodies within the Eyeball.—Dr. A. B. Hale reported a case in which a piece of steel had penetrated the eyeball of a man seventy-seven years of age. It was located by X-ray photographs. On the physician's advice the patient consented to enucleation of the eye sixty hours after the injury, before inflammation had shown itself. Treatment resolves itself into three methods: (1) The eye may be left alone. This was discussed historically and clinically, and repudiated for fear of sympathetic inflammation. (2) Enucleation, which was done, and the reasons therefor given. (3) Use of the magnet. Reasons were given why the magnet was not applied in this particular case. An analysis of over a hundred cases in recent literature was given to show that the visual results from the operation are not so good as to warrant subjecting an old man near the grave to the severe operation.

CANADA.

Menace to the Health of Montreal.—Mr. Robert Watchorn, the Special Immigrant Inspector who has charge of all the immigrant inspectors from Sault Ste. Marie to Montreal, including Port Huron, Detroit, Niagara Falls, Buffalo and Vanceboro, Maine, has recently given utterance to the following statement: "Ninety-eight per cent. of the European immigrants who are prohibited from entering the United States by the American officials in Montreal and at other points of entry along the border, are suffering from infectious diseases which are the direct result of filth and lack of sanitary methods." This is certainly a startling statement, as it means that Montreal must to a great extent be a dumping-ground for the rejected ones, and as a matter of fact this is happening in Montreal to the extent of forty to fifty per week. The diseases from which these immigrants are suffering are mostly trachoma and favus, and unless our health authorities wish to see the country overrun with this most objectionable class of immigrants they will immediately be up and doing the same as the United States Immigration Department. As a matter of fact Dr. Montizambert, the Director-General of Public Health at Ottawa, has frequently drawn the attention of the Government to this condition of affairs and the desirability of keeping out these incomers so affected. Since last September, when the United States Immigration Department at Washington commissioned a Board of Special Enquiry for Montreal, the condition of affairs has become greatly aggravated, and Montreal is indignant and insists that that city shall not be made to suffer any longer from these objectionable accessions to its population. The Canadian Government should immediately copy the example set by the United States authorities.

A Six-Year Course in Applied Science and Medicine at McGill University.—It has recently been decided by the Corporation of McGill University that students in the Faculty of Applied Science should be placed on the same footing with respect to the double course in arts and medicine as the students in the Faculty of Arts. Two years ago the six-year course was established so far as arts and medicine were concerned. This has now been extended to the students in applied science. Students electing for the combined course in applied science and medicine will take in their third year in the former, in addition to their regular studies in applied science, anatomy, physics and histology. In the fourth year, they will take in medicine, anatomy, physiology, histology, pharmacology and medical chemistry. At the end of the fourth year they will receive their degree of B.Sc. The studies in the fifth and sixth years will

be the same as those in the corresponding years in the medical course. At the end of the sixth year, they will receive the degree of M.D., C.M.

Unfortunate Accident to a Nurse.—At the Brockville (Ontario) General Hospital, Miss Jackson, aged twenty-four years, has been a nurse in training. On the night of March 21st, not feeling well, she took two ounces from a stock bottle labeled magnesium sulphate solution. The bottle, however, contained a solution of bichloride of mercury. She at once realized that she had not taken a magnesium sulphate solution and summoned medical aid. Death, however, resulted five hours later.

Contagious Diseases in Ontario for February.—Dr. P. H. Bryce, Secretary of the Ontario Board of Health, has handed out the following statement of the deaths occurring in Ontario for the month of February from contagious diseases: Scarlet fever, 38; diphtheria, 34; measles, 21; whooping-cough, 16; typhoid fever, 25; consumption, 177. The total deaths from all causes was 2,241 as compared with 2,480 in the same month in 1901. There was a considerable falling off in the deaths from consumption as compared with the previous year, which registered 238. Ninety per cent. of the population reported in February, that is, about 769 municipalities.

Personals.—Dr. Don. J. Armour, Toronto, '94, son of Chief Justice Armour of Toronto, who was formerly demonstrator of anatomy under Professor Lewellys F. Barker at Chicago, has recently been appointed senior assistant surgeon at the Belgrave Hospital for Children, London, England. Dr. Armour will continue to hold his position as senior demonstrator of anatomy at University College, London.—The following Canadian practitioners have recently been admitted by examination to membership in the Royal College of Surgeons, England: Dr. Charles B. Shuttleworth, Trinity Medical College, Toronto; Dr. Walter H. P. Hill, McGill University, Montreal; Dr. Henry A. Kingsmill, Western University, London, Ontario.

GENERAL.

Vaccination in London.—The smallpox scare in London has reduced the number of "certificates of conscientious objection to vaccination" from 203,413 in 1898 to about 38,00 in 1901.

"And thus the native hue of resolution

Is sicklied o'er with the pale cast of thought."

The Cholera Situation.—In view of the disturbing report made last week of the appearance of cholera at Manila, it is of interest to inform ourselves more definitely concerning the prevalence of this infection. It is reported to be present at Canton, raging at Fatshan and spreading at Seungshan in China. In India during less than five months there have been at Bombay 29 cases, at Calcutta 449 cases, and at Madras 84 cases. During the same period the disease has been more or less constantly present in Java, the Strait Settlements and Turkey. Since the outbreak in Manila 118 cases with 93 deaths have occurred.

Increase of Smallpox.—During the first three months of the present year 25,574 cases of smallpox have been reported in the United States. During the corresponding period of 1901 the number recorded was 11,664. It is also interesting to note that the percentage of fatal cases likewise has more than doubled. The epidemic is insidiously and steadily gaining. Redoubled efforts on the part of health officers and the profession will be needed to stay its progress. Vaccination and isolation must be their watchwords.

Canned Tomatoes Poison.—At Sayville, N. Y., a family consisting of the two parents and four children partook of canned tomatoes on March 28th. All were made ill. One daughter of seven years died in less than

forty-eight hours and the youngest, a boy aged four years, is fatally poisoned.

Dr. Burdick's Resignation.—The resignation of Dr. James T. Burdick as surgeon in chief of the hospital at the New York State Soldiers' and Sailors' Home, at Bath, N. Y., which position he has held since April 1st of last year, took effect March 30th. He expects to return to Brooklyn at an early date. Dr. W. L. Babcock has been transferred from St. Lawrence Hospital, Ogdensburg, provisionally, to succeed Dr. Burdick. Dr. A. P. Shellman, Assistant Surgeon at the home, has also left.

Texas Quarantines.—By proclamation of her Governor, a quarantine will be established on April 15th along the entire Mexican border and Gulf Coast of Texas to continue in force until removed by proclamation. The quarantine will apply to all vessels, persons or things coming from places infected by yellow fever, smallpox, bubonic plague or cholera, and all places south of 25° North latitude will be considered infected unless proof to the contrary be submitted to the State health officer.

Gregory Testimonial Banquet.—Arrangements are practically completed for the Gregory testimonial banquet, which is to be held in St. Louis, April 17th. Among others, the following will respond to toasts: Drs. DeForest Willard, Philadelphia; Walter Wyman, Surgeon-General United States Marine Hospital Service; N. B. Carson, President St. Louis Medical Society; J. D. Griffith, President Missouri State Medical Society; Chancellor Chaplin; W. G. Moore and C. H. Hughes. Dr. A. M. Dockery, Governor of Missouri, will preside and will respond to the sentiment of "The State of Missouri." Dr. F. J. Lutz will act as toastmaster. Judging from letters that have been received, it is certain that the affair will be one of the largest of the kind ever held.

Potomains in Cream Puffs.—Numerous Cincinnati bakeries have ceased manufacturing cream puffs and chocolate eclairs as the result of recent wholesale ptomain poisonings. Last Saturday and Sunday fourteen persons were made dangerously ill by eating cream puffs and chocolate eclairs. City hospital physicians say that the sickness is caused by the fermented cream used in making the cakes.

Philippine Service.—The United States Civil Service Commission announces that the examinations for the positions of agricultural chemist, analytical chemist, physical chemist, physiological chemist, pharmacologist in the Philippines will be held May 6-7, 1902, at places selected in the several States of candidates. For the position of pharmacologist the degree of M.D. is a prerequisite, and, as general requirements, it will be necessary for applicants to show that they have completed the course of studies covered by the B.S. degree. This information should be specifically stated. Salary, first year, \$1,800. These examinations are open to all citizens of the United States who comply with the requirements.

Obituary.—Dr. Moses T. Babcock, who had practised medicine in Hammondsport, N. Y., for fifty years, died suddenly at his home there March 31st, aged seventy-seven years. During the Civil War he was Assistant Surgeon of Volunteers.

OBITUARY.

THOMAS DUNN ENGLISH, M.D., LL.D.

DR. THOMAS DUNN ENGLISH died at his home in Newark, N. J., on the morning of April 1st, and thus closed the long and picturesque life of a man with many accomplishments and diverse activities.

In turn Dr. English had been journalist, physician, lawyer, politician, poet, statesman and author. He was born in Philadelphia on June 9, 1819, and so was well advanced in his eighty-third year. His family, of old New Jersey stock, were of Norman-Irish origin, and in him the characteristics of both races were exhibited. Very early in life he made his first literary essays in journalism, writing for the Philadelphia "Press," but this employment he abandoned temporarily for the study of medicine, in due time securing his diploma as a physician from the University of Pennsylvania. This was in 1839. After a very brief period of practice he began to read law in Philadelphia, where he was admitted to the bar in 1842.

In 1848 he became associated with a humorous periodical called "John Donkey," and in the same year he wrote a work on the French revolutionary movement of that period in collaboration with G. G. Foster. He went to Virginia in 1852, and remained there for five years, his experience in that part of the country resulting in his "Logan Grazier," and other poems. Finally, in 1859, he settled in New Jersey, and resumed the practice of medicine, which he continued more or less constantly to the end of his days, although he did not permit it to interfere greatly with his activities in other directions.

The entrance of Dr. English into political life was effected during the agitation over the question of the Texas annexation, and the ability which he displayed won for him the friendship of President Tyler. In 1863-64 he served in the New Jersey Legislature; in 1876 he received the degree of Doctor of Laws from William and Mary College, Va.; he was elected to the Fifty-second and Fifty-third Congresses as a Democrat.

To the general public, Dr. English was best known by his ballad of "Ben Bolt," which was written nearly sixty years ago, and achieved an extraordinary popularity on both sides of the Atlantic, somewhat to the chagrin of its author, who resented the implication that it was an extraordinarily favorable specimen of his work. He wrote the lines for N. P. Willis, then editor of the New York "Mirror," and the music to which they are generally sung was composed by Wilson Kneass, an actor and singer, who made a small fortune out of the combination. The song in the course of years had gradually fallen into oblivion, when Du Maurier recalled it into vigorous life by his mention of it in "Trilby."

His wide acquaintance with life and his extensive and varied mental cultivation made Dr. English a delightful companion, and he retained his faculties and a wonderful amount of physical vigor almost to the very last.

CORRESPONDENCE.

REVIEW OF DR. D. S. WILSON'S ARTICLE.

To the Editor of MEDICAL NEWS:

DEAR SIR—Permit me to call attention to some inaccuracies in the "History of the Army Post Exchange or Canteen" as given by Dr. D. S. Wilson in the MEDICAL NEWS of February 15th.

It is true that at the meeting of the Association of Military Surgeons, held at St. Paul in June last, Major Seamans read his "masterly article" entitled "Observations in China and the Army Ration and the Canteen," and that the Association after discussion unanimously passed a preamble and resolution, offered by Seamans, declaring that "the abolition of the canteen has resulted and must inevitably result in an increase of intemperance, insubordination, discontent, desertion and disease in the Army and that the Association de-

plores the action of Congress in abolishing the Post Exchange or Canteen, and in the interest of sanitation and morality and discipline, recommends its reestablishment at the earliest possible date." Colonel Reed of Wyoming is quoted in Dr. Wilson's article as complimenting the theorists and the W. C. T. U. for "doing a good work in their sphere, but they have gotten out of their sphere and have meddled in the laws of the United States in doing so."

Brigadier-General Byers said, "The good women meant to do some good, but they went after it in the wrong way," and then he paid a high compliment to Congress by adding: "I think, however much a Congressman may want to do his duty, he usually counts the vote behind every measure that comes up." "We have got to give the authorities at Washington to understand that we have votes behind us as well as the W. C. T. U." Lieut.-Col. Griffith said, "When this thing comes to a test the Canteen will come again. It is our duty to bring it forward and we must have it. It is a necessity; it may be a necessary evil, but we have them all over the land. We must have the Canteen."

Other members of this Association of Military Surgeons united in endorsing Major Seamans' resolution, which was presented to the American Medical Association, then in session at St. Paul. After a somewhat violent and interrupted speech by the Major, the resolution was voted down by two or three to one.

Some member of the Association then moved that the whole subject be referred to the Committee on National Legislation with directions to consider it and report. This committee consists of three members with headquarters at Washington. The understanding was that this committee would take time and report at the meeting in Saratoga next June. But the very next morning when most of the more than a thousand members of the Association were absent, being at work in their Sections, less than fifty, evidently by some prearrangement, met and heard a report from Dr. H. L. E. Johnson, the only member of the Legislation Committee present, in favor of the resolution which was rejected the day previous. This report was declared by President Reed adopted, and doubtless was adopted by the vote of a majority of the few present, although the negative vote was not called for.

The divergence of this account by an eye-witness from the statement of Dr. Wilson, who was not present, is somewhat remarkable. But President Wyeth's declaration in a letter solicited by Dr. Wilson is entirely correct, that "a decided majority of the members present" voted in favor of the motion.

General Kitchener, the commander-in-chief of the British Army in Egypt, reports that in the long marches of weeks and months over the hot sands of the desert in those desperate fights with the Dervishes of Egypt, his men endured fatigue and exposure better without a drop of grog than when they drank the customary ration, and that in rapid marching, in attack and defense they were quite equal to the Dervishes who have been regarded as the best fighters in the world and who, being Mahometans, were all total abstainers.

It is safe enough to compare Kitchener's opinion regarding the necessity of alcohol in the tropics with that of Major Seamans, who was a short time in China.

Business men assert that laborers in their service, who are abstainers, not only endure cold and heat, hunger, exposure and fatigue better, but they recover sooner than those who indulge in intoxicants. This testimony of practical men who know what they are talking about, combined with the report of Lieut.-General Miles that no harm has resulted from prohibiting

the sale of intoxicating beverages in the Canteen, but that the law has been beneficent, ought to over-balance the claim of a few surgeons that the tipping canteen is a necessity and we must and will have it.

I close by quoting the military history of Colonel P. H. Ray, the commandant at Fort Snelling, Minn., near St. Paul, and by giving the reasons for his expressed opinion of the Canteen, mollified into the "Army Post Exchange."

"The published military record of Colonel P. H. Ray, now Commandant of District and Post at Fort Snelling, Minnesota, shows that he served through the war of the Rebellion, entering the volunteer service in Wisconsin Infantry in 1861 and rising from the position of private to that of captain in 1864. He held prominent staff positions during the war and was at Selma and Montgomery, Alabama and Forts Johnson and Raleigh, N. C. He was with the expeditions at Yellowstone and against the Sioux Indians and was stationed at Forts Lowell, Apache, Halleck, Gaston, and McDowell. He had various commands from 1877 to 1897. He was sent by President McKinley on special mission to report on conditions along the Yukon River. He organized the 3rd U. S. Volunteers at Macon in 1898, was promoted to the colonelship and commanded the regiment in Cuba in 1898-'99, and was then assigned to command District and Post at Fort Egbert, Alaska, where he remained till transferred to Fort Snelling.

"At various times he has received honorable mention from commanding officers for deeds of generous daring, and from the President, Secretary of War and Major-Gen. Miles for the efficient discharge of all his duties in the responsible positions to which he had been appointed and which required constant vigilance, sound judgment and great ability.

"His opportunities for observing the effect of intoxicating beverages on soldiers in field and camp have not been surpassed by many if any officers, and his views which he frankly expresses are entitled to consideration and respect."

Here is his opinion of the Canteen, a name which has been mollified into "The Army Post Exchange."

"WAR DEPARTMENT,

"FORT SNELLING, Minn.,

"June 16, 1901.

"H. D. DIDAMA, M.D.,

"MY DEAR SIR—I noted the action of Dr. Seamans at both conventions and regret that he did not confine himself to the truth both in regard to the percentage of drinking men in the Army and that the sale of beer is necessary to provide a suitable ration in the tropics. I believe he was reported in the papers as saying that the ration for the Army was the same for all latitudes. This is not true.

"In my experience I have never found that a drinking place was necessary in any military establishment to maintain discipline or to preserve the health, comfort or content of any command where active operations are being carried on, as I have found such establishments to be a nuisance and often a menace to the welfare of a command in the field. I have often seen them abated with a rough hand and always with good results.

"When stimulants in any form are necessary they should be issued without cost to the soldier and carefully controlled. There is in our Army at the present time better material than in any other army in the world and this if properly handled will make the best soldiers. To secure such result the drinking element must not be encouraged, but on the contrary should be thoroughly suppressed.

"The conditions existing at both Chickamauga and Tampa should be sufficient to deter any sane man from again attempting the sale of liquor in a camp of volunteers. The hard drinkers will get drunk and will go where they can get whisky so long as they have money; when that is gone they may come to the canteen to get beer on credit. Our best officers get rid of such men as soon as possible, and they are not a factor that should be considered or catered to. In my Post there has been less drunkenness without the canteen than with it, but I attribute the most of this to getting rid of some rough characters.

"In my opinion the worst feature of the canteen is having officers who serve the troops, handle intoxicants that make men drunk, take their money and then sit on a court to try them for being drunk. My observation has been that company commanders who may be in charge of a canteen are very loth to prefer charges against men to whom they have given credit with which to buy beer on which to get drunk; for I have seen as much drunkenness in a canteen as I ever saw in a trader's store of the old time.

"I do not think we are called upon to accept 'an alternative,' as some put it, that a canteen is the lesser of two evils; the fact that it is an evil is sufficient to condemn it and to confirm the action of Congress as right and just.

"As long as officers do not countenance it, but consistently punish all drunken offenders, beer drinking will not be popular in the army, rowdism will disappear and discipline will improve. I believe that medical officers and officers of the Army agree that alcohol in any form should never be used as a beverage in the tropics. I regret that the canteen has caused so much contention and that any part of the Army should be made so offensively notorious, but now the matter is up I hope it may be settled for good and all, not only for the good of the service but for humanity.

"Very truly yours,
"P. H. RAY."

"WAR DEPARTMENT,
"FORT SNELLING, Minn.,
"July 18, 1901.

"H. D. DIDAMA, M.D.,

"MY DEAR DOCTOR—Yours received. I am grateful to you for the interest and stand you have taken. I hope there will be no more legislation on the subject and that there is an end to retailing liquor to soldiers by any United States official for any purpose. I enclose under separate cover a copy of *Journal of the Military Service Institution* where Captain Lewis touches on the canteen question under the head of 'Discipline in the Army.'

"There is an important point in regard to efficiency which I have not mentioned and that is the effect of beer on the physical endurance of men. Several times within the last ten years I have noticed when extra and continued exertion has been required in marching that in every instance the first men to drop out of the ranks and fall by the wayside have been the beer-drinkers.

"With the development of the long-range weapons and the necessarily greater distances to be passed over under fire under attack, the modern soldier must be an athlete, not only to carry him through the zone of fire but to enable him to shoot accurately. From my own experience I know that drinking beer detracts from the accuracy of the soldier's shooting.

"To put aside all other questions, it would be the height of inexpediency for the Government to make itself a party to the policy that would render a soldier inefficient at a critical time on the battlefield after hav-

ing maintained him for several years at a cost of over \$1,000 per annum. I consider that it is the duty of the officer to prevent the soldier by precept and example, and by punishment when necessary, from incapacitating himself by his own act, rather than indulging him in a vice because some irresponsible party makes a profit thereby. The theory that because the profit on the canteen beer goes to the soldier *mitigates* the evil is not tenable, because it only *aggravates* it by indulging him in unnecessary and enervating luxuries which tend to destroy his usefulness as a soldier.

"If beer makes him a better and more efficient soldier and adds to his endurance, then it should be given him free of cost; if it does not, but on the contrary detracts from his efficiency, then the profit is no justification for defrauding the United States of his services at the time he is required on the line of battle and he fails to appear 'behind his gun' to do the work for which he has been paid and clothed for years, simply because his officers sold him beer at a profit so that he might eat pie in garrison.

"Very truly,
"P. H. RAY."

Very truly yours,

H. D. DIDAMA, M.D., LL.D.,
Dean of the College of Medicine,
Syracuse University.

Syracuse, N. D., March 1, 1902.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, March 22, 1902.

CECIL RHODES AND HIS PHYSICIAN—ANTIVIVISECTIONISTS ON THE WAR-PATH—THE TREATMENT OF INCipient INSANITY.

FROM a medical point of view the illness of Cecil Rhodes, as far as can be gathered from the bulletins, is a trifle mysterious. Some cardiac complaint is more or less plainly hinted at; but at one time it is stated to be angina pectoris, at another aneurism. Dr. Leander Starr Jameson, who is in attendance, is one of Mr. Rhodes' oldest friends. After a creditable career at University College, London, he went out to Kimberly in 1878 to take over the practice of an American physician who had somehow neglected to provide himself with a regular diploma in his native country, and probably thought it not worth while to repair the omission in South Africa. Jameson was soon doing a very large business. Rhodes, who had gone out as an invalid, was then at the beginning of his career as a trader in diamonds which in a few years made him one of the world's millionaires. The two young men lived together and thus cemented a friendship which ultimately caused to South Africa woes as countless as those brought on the Greeks by the wrath of Achilles. For it was Jameson's "raid," as insensate as it was inglorious, which made war inevitable. When, at the suggestion of Rhodes, he gave up medicine to become the administrator of Mashonaland the papers controlled by the gang whom we may call the Colossians here were loud and copious in praise of his energy and diplomatic tact. His Scotch caninness was especially insisted on. Energy he has, but the tact and caninness were a revelation to the more judicious of his friends here who had known him in his earlier days. They were ready to allow him the possession of many admirable qualities, but among the elements making up an attractive character, prudence and even ordinary caution were conspicuous by their absence. Jameson as a young man was impulsive and, indeed, reckless, and those who knew him best felt pretty sure that

he would come to grief in his political career. He is a well educated physician and in former days had Oom Paul as a patient. But till this illness of his distinguished friend, it must be many years since he had practised his profession.

The antivivisectionist hounds are again in full cry. A few weeks ago the National Antivivisection Society got hold of a catalogue of apparatus and appliances for experiments on animals issued by the firm of F. and M. Lautenschlager of Berlin. The illustrations are of course of a kind likely to make sensitive people shudder, but after all they are not so harrowing as an ordinary surgical instrument maker's catalogue could be made by the addition of illustrations showing patients under operation. Some 20,000 copies of the catalogue have been sent out by the Society, largely to women. As usual, no hint is given by those responsible for this outrage on public sentiment that the animals who form the subjects of the experiments are made unconscious by anesthetics; nor is it explained that in this country the performance of such experiments, except under anesthetics, is forbidden by law. Victor Horsley has hurled himself into the fray, particularly in defence of Dr. Crile, some of whose experiments on surgical shock were performed in his laboratory. It appears that three years ago Crile was denounced to the Home Office, which has the supervision of vivisection here, by Stephen Coleridge, the moving spirit of the National Antivivisection Society; the matter was fully inquired into and the charge declared to be unfounded. Nevertheless, Coleridge has again been holding up Crile to public execration, and when reminded that the accusation was pronounced to be false, impudently insinuates that the Home Office was deliberately misled by the experimenters. There can be no doubt, however, that Coleridge, though his disingenuous methods of controversy are recognized by intelligent people, is doing harm by shocking sentimental old ladies and making them unwilling to subscribe to hospitals where, it is suggested to them, vivisection is practised. Scientific research is already considerably hampered in this country by legislative restrictions, and it is not surprising that, as Mr. Arthur Balfour publicly stated not long ago, we are falling behind other civilized nations—even such as Italy and Switzerland—in the advance of scientific knowledge.

At a recent meeting of the Edinburgh Medico-Chirurgical Society, Sir John Sibbald, who was for many years at the head of lunacy administration in Scotland, proposed that accommodation should be provided in the Royal Infirmary for cases of incipient, transitory and recent cases of insanity. He pointed out that patients in the early stages of mental disorder are at present almost entirely neglected, and thus a considerable number of them are allowed to fall into incurable insanity who might have been saved from that fate. At present, such cases, if treated at all, can only be treated in asylums. The fact of having been an inmate of a lunatic asylum places on a man or woman an ineffaceable brand which, socially and otherwise, wrecks their lives. No such stigma attaches to a sojourn in a hospital. The patient would, of course, be kept for only a limited time; if recovery does not take place within that period the case must be dealt with as one of chronic insanity. But a short stay in a hospital with rest, good feeding and other therapeutic influences would, Sir John Sibbald holds, give a considerable proportion of recoveries. The scheme would also be highly beneficial in regard to the instruction of students in a subject in which they have under the present dispensation few opportunities of practical instruction. The proposal was warmly supported by the members of the Society, and the principle has been accepted by the gov-

erning body of the Royal Infirmary. The arrangement of the details will take a little time, but both the profession and the hospital authorities are committed to the step. The London County Council has for the last two or three years had a similar scheme under consideration. The asylums under their control are huge aggregations of persons in all stages of mental disorder, many not insane at all, their disease being alcoholism. A patient whose mind has given way under an exceptional strain and who, if placed under favorable conditions, would recover in a short time, has no chance in a crowd of mad folk where the influence of his surroundings tends to intensify his disorder. It is probable, therefore, that London will at no distant date follow the example of Edinburgh in providing for the proper treatment of cases of incipient insanity.

FOREIGN SOCIETIES.

British.

LIGATURE OF THE LEFT CAROTID ARTERY IN TREATMENT OF ANEURISM OF THE ARCH OF THE AORTA—TRAUMATIC RUPTURE OF THE PROSTATIC URETHRA—TUBAL GESTATION—DERMOID CYST OF THE OVARY IN OLD AGE—INTRACRANIAL THROMBOSIS AS A CAUSE OF DOUBLE OPTIC NEURITIS IN CHLOROSIS—CYSTOID CICATRIX FOLLOWING CATARACT EXTRACTION—SCLERODERMA AND RAYNAUD'S DISEASE—DIAGNOSIS OF SCARLET FEVER.

THE medical societies of the United Kingdom during January and February were redundant with interesting meetings. The communications presented were numerous, but the following may be regarded as the most representative.

C. HEATH, at the Royal Medical and Chirurgical Society, February 11th, presented two cases of ligature of the left carotid artery for aneurism of the arch of the aorta and showed postmortem specimens of four cases. The two patients whom he presented were the sixth and seventh upon whom he has performed the operation. The sixth was a woman, sixty-one years of age, admitted in July, 1890, to the Mile End Infirmary, with all the typical symptoms of aneurism of the arch. She was kept in bed and given iodide of potassium for many weeks, without result. She was obliged to sit up in bed, with the knees drawn up and the head resting upon them, for leaning back caused dyspnea and stridor. The left carotid artery was tied without an anesthetic November 16, 1890. Three days later the noisy respiration became quiet and the dyspnea on leaning back disappeared. Six days after the operation she slept seven hours consecutively. Two months after, in January, 1891, there was some return of pain. The following February the pulsating tumor above the sternum had decreased and the patient was able to lie and sleep in any position. Improvement continued and she was discharged at her request August 8th. She was admitted to the London Hospital September 3d, when the pulsating tumor could just be felt above the collar-bone. She died suddenly on November 20th, more than a year after the operation. The seventh case was that of a man, thirty-six years of age, admitted into the University College Hospital November 4, 1898, with the same disease, showing well-marked physical signs, which included "tracheal tugging" and a blowing systolic murmur over the aneurism. The lungs were healthy. During November, December and January the patient had suffered pain in the shoulders, back and neck. The aneurism at first diminished, but in January it increased and a definite pulsating tumor appeared beneath the pectoral muscle below the right clavicle. The left carotid artery was tied with silk under eucaïne beta on January 18, 1899. On the 20th the pulsation in the

aneurism was less and daily improvement followed until February 1st, when the patient returned to the medical ward with the operation wound healed. The pulsation in the aneurism was now much less distinct. The patient was free from pain and had slept well since January 20th. On February 16th the patient had pain in his chest; the temperature was 103° F. the next day, and March 21st he died with symptoms of rapidly-developing acute phthisis. The aneurism gave no trouble and was daily less evident. The four specimens presented the following features: The first was from a man on whom the operation was performed in February, 1872. It was followed by a year of great improvement, when under hard agricultural labor the tumor began to grow again, and finally burst four and one-half years after the operation. In this case the autopsy was made three days after death in very hot weather and the decomposed clots were unfortunately washed away. The second specimen was from a man, thirty-eight years of age, who was operated upon in March, 1890, and died suddenly on May 12th following. This aneurism was filled with laminated clot. The third specimen was from the case just described and showed an aneurism the size of an orange almost completely filled with laminated clot. The fourth specimen was from the seventh case and showed an aneurism of about the same size with a small secondary aneurism at the root of the innominate artery. Both were nearly filled with the same kind of clot. The center of the larger aneurism was filled with soft clot. From his experience Heath maintains that ligation of the left carotid artery undoubtedly produces an immediate effect upon aneurism of the arch. He thought that the ultimate solidification of the aneurism, though in one sense a method of cure, accounted for the sudden deaths which occasionally occur some months later, owing partly to pressure effects and partly to the induction of syncope.

E. OWEN, at the Medical Society of London, February 10th, showed a boy, aged seven years, on whom a pile of coffin lids had fallen October 21st last, and caused a rupture of the prostatic urethra. He was admitted to St. Mary's Hospital in grave collapse, taken into the operating-room where the house surgeon treated a compound fracture of each tibia. That night blood was found oozing from the urethra and no urine had been passed. The house surgeon tried to introduce a catheter and, although he did not enter the bladder, drew off a small quantity of bloody urine. There was no swelling in the perineum. No other steps to relieve the bladder were taken that night, but when Owen saw the boy next day he had him placed at once on the operating-table and unsuccessfully tried to pass a catheter. He then attempted to open the urethra through the perineum, but failed to find it. He therefore made an incision between the recti abdominis muscle below the peritoneal reflexion where he discovered a quantity of bloody urine around the base of the distended bladder. He next incised the bladder and let out much urine, passed a large drainage tube through the floor of the pelvis and out by the peritoneal incision without further investigation. A week later the house surgeon put the boy under anesthesia, passed his finger through the suprapubic wound and out by the perineal incision, demonstrating a laceration of the prostatic urethra. At this time he was able to introduce a No. 7 (English) silver catheter through the urethra and into the bladder. The wounds gradually closed and the boy now passes his urine in the proper way. There is no indication whatever of the prospect of a traumatic stricture.

J. BLAND-SUTTON, at the Obstetrical Society of London, February 5th, read notes of two cases of tubal gestation. The first was diagnosed by the woman's husband, who was a medical man, confirmed by Bland-

Sutton, and removed before rupture. The tube was larger than usual owing to the contained blood mole and the unusual size of the amniotic cavity, which contained a misshapen ovum. The second case had been actually diagnosed by the patient herself, and reminded the author of an artisan's wife, whose husband had also made a diagnosis after reading his "Diseases of the Ovaries and Fallopian Tubes." The patient was thirty-six years old, had been confined in 1891, and had had regular menstruation until July 5, 1901, when a period was missed, and the patient suspected extra-uterine pregnancy. Severe abdominal pain followed two cycle rides. Bland-Sutton was called into consultation. He confirmed the diagnosis and on July 19th removed the left tube and ovary with several ounces of fluid blood in the pelvis. The ampulla of the tube contained a clot as large as a walnut. The celomic ostium was large enough to admit a goose quill and blood leaked freely from the opening during the operation. The walls of the tube were extremely thin, but had not ruptured. Typical villi were found at the placental site.

A. ROUTH showed a dermoid cyst of the ovary of cocoanut size which had been removed through the vagina from a fifty-three-year-old patient. He asked the members of the Society to state their experience as to the best method of treating the vaginal incision after the pedicle had been ligatured and returned. He usually closed the vaginal incision and inserted a gauze drain, but sometimes closed it completely. In the discussion the following opinions were advanced: P. Horrocks, the President of the Society, questioned whether posterior colpotomy was as good as abdominal section for the removal of tumors in general and dermoid cysts in particular. It is true that it may be easy to remove a dermoid through the vagina, but one can never tell beforehand, and, if the abdomen has to be opened to complete the operation after the cyst had been incised from below, there would be increased risk of soiling the peritoneum with the contents. In his experience such contents were occasionally more virulent than the contents of ordinary tumors. Bacteriological investigation, however, had not resulted in the discovery of any specific or special pathogenic microbe. He prefers, after a posterior colpotomy, not to close the opening, but to drain with sterilized gauze. If the opening were very large it might be partially closed. Dr. Champneys thought that the treatment of the vaginal wound should depend upon its size. If large, it should be partly stitched and the balance drained; if small it should be drained only. He now treats the pedicle of cysts removed by colpotomy by pressure forceps and gauze drains without ligatures, and finds the result very satisfactory. The pressure forceps must remain in position about forty-eight hours. They thus assist the drainage. G. E. Hermann said that the special danger attending the fouling of the peritoneum with the cyst contents was due to the proneness of dermoids to suppurate. Apart from this their contents were but slightly irritating. He thought that after removing a cyst through the vagina, drainage is not needed unless supuration has occurred or unless the cyst contents were known before to have fouled the peritoneum. Routh closed the discussion by stating that he prefers not to use a clamp but to draw the cyst outside of the vulva, retroverting the uterus, and then to ligate the pedicle at leisure. All tension of the tissues was thus easily avoided.

C. O. HAWTHORNE read a paper at the Ophthalmological Society, January 30th, in which he adduced arguments in favor of regarding intracranial thrombosis as the cause of the double optic neuritis sometimes seen in chlorosis. Sir W. Gowers, in the discussion, recalled the fact that he was the first to point out the as-

sociation of double optic neuritis with chlorosis, but in such cases there were no true cerebral symptoms excepting headache. He doubts the possibility of a thrombosis existing without cerebral symptoms involving at least the sixth nerve. Thrombosis might cause optic neuritis and chlorosis might do so likewise, but to aver that the latter caused optic neuritis by thrombosis was a very wide statement. That chronic bone disease causes optic neuritis is an unquestionable fact but a great mystery. In such cases there was often no evidence of sinus thrombosis. Middle-ear disease may also cause optic neuritis, but not necessarily by sinus thrombosis. Was it possible that disease of the spinal cord and ear disease brought about optic neuritis in the same way? Cerebral tumors often cause optic neuritis, but after death there is no thrombosis. Thrombosis might behave like tumor when there was septic contamination with infective tendency. Embolism is associated with septic endocarditis, but never with simple thrombosis in the artery. J. Taylor asked how cavernous sinus thrombosis could possibly exist without proptosis and why it should affect both sides. The good effect of iron and aperients in chlorosis supports the belief that the optic neuritis is due to changes in the blood. Hawthorne in conclusion said that some patients with chlorosis died suffering from optic neuritis and in these there was nothing but thrombosis at present to account for it. He thought that the obstruction need not necessarily be in the cavernous sinus, but if it were he would expect proptosis.

G. A. BARRY read a note on the treatment of cystoid cicatrix following cataract extraction, saying that it is not always possible to prevent this condition after the operation. Their occurrence is a source of danger to the eye on account of the way in which they facilitate the entrance of germs. Statistics show that it is present in two or three per cent. of all cases operated on. As a rule the opening is very small and can be seen readily if the conjunctiva is dissected up. For the treatment he prefers to dissect up the conjunctiva, turn it down as a flap, then with the cautery to burn gently the small opening and at once replace the flap. He has always seen this procedure cure the condition and regards it as preferable to all others.

W. EWART, at the Harveian Society of London, February 6th, read the clinical history of a case of scleroderma associated with Raynaud's disease with special reference to treatment. The woman was thirty years old, under observation since November, 1900, having up to that time suffered for five years with mild symptoms of Raynaud's disease and from aggravated dyspepsia with gastric and cardiac attacks. These latter had been much more severe during the last six months. During this same period she became aware of tightening of skin of the hands, feet, face and shoulders. Dr. Lea Dickinson had treated the case at the end of 1900 and had then observed early symptoms of scleroderma, the first alteration being in the facial outline and expression, which had also been noticed by her husband four years ago. Since her admission to St. George's Hospital on January 2, 1902, she had made considerable progress. The face had lost much of the pointed aspect and was smooth and oval, the lips again supple for articulation, smiling and whistling. The fingers and wrists had ceased to be rigid and, indeed, were freely movable, and she could once more stoop to the ground so as to reach her feet. The treatment had been chiefly hygienic for the visceral and thermo-mechanical for the cutaneous trouble. She had been kept in bed, fed on light food, wine, olive oil and whisky, which were well digested. The hands were kept oiled and gloved and perpetually in contact with a hot-water bottle inside of a bag of wool except for the periods of passive move-

ments of massage and of skin massage. The local asphyxia of the fingers had been quickly remedied and pliability of the skin restored while the extract and cardiac symptoms remained quiet. The medicinal treatment had been diaphoretic and vaso-relaxant. The drugs were nitroglycerin, spirit of nitrous ether, acetate of ammonia, and occasionally mercury. After a few days she was allowed to get up for part of the day and to exercise. In her case the scleroderma had preceded the Raynaud's disease by several years as shown by the history of the minute scars on all her finger-tips. Emaciation had been marked and the thyroid was small.

J. M. DAY, at the Royal Academy of Medicine in Ireland, January 24th, read a paper on the diagnosis of scarlet fever, saying that it is far more difficult than formerly when the disease was severer and of more marked type. The chief symptoms of scarlet fever were vomiting, sore throat, elevation of temperature, frequent pulse and a rash. If scarlet fever is present the red punctiform appearance of the pharynx, soft palate, tonsils and hard palate would be found. The pulse was quick even in the mild cases. The rash is never found in the circumoral zone, that is, about the tip of the nose and the mouth. The skin is usually dry, but sweating may occur in rheumatic subjects. When the disease is accompanied by gastric catarrh, the tongue is furred. Scarlet fever may occur a second time without eruption. Desquamation may commence on the sixth day or be delayed until the twenty-first. It spreads centrifugally from various points. Scarlet fever may be confounded with roetheln, measles, septicemia, urticaria, erythema, rheumatic fever, meningitis, enteric fever, and drug rashes.

SOCIETY PROCEEDINGS.

HARVARD MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held February 22, 1902.

The President, William B. Coley, M.D., in the Chair.

Errors and Difficulties in the Diagnosis of Surgical Conditions of the Liver and Biliary System.

This was the paper of the evening, and was read by Dr. Charles L. Gibson, who discussed from a practical and clinical standpoint the present position of the diagnosis of hepatic and biliary conditions. The paper will appear in a subsequent issue of the *MEDICAL NEWS*.

In the discussion Dr. Edward M. Foote said that what is especially needed at this time is the collation of actual experiences in the surgical treatment of biliary conditions. Of theory in the matter there has been plenty and the advance of practical surgery now depends on clinical data. Dr. Foote considers that it is the discussion of actual errors and difficulties, especially in the recognition of conditions supposed to be present, that will advance biliary surgery.

Gall-Stone Fever.—In closing the discussion Dr. Gibson said, with regard to the intermittent fever which occurs with gall-stones, that its character is often misstated. Gall-stone fever is said, even by good clinical authorities, to resemble malaria. This is untrue. In Dr. Gibson's experience it resembles a pyemic fever and has not the regularity of malarial fever. There are series of rises and falls in temperature accompanied by sweating stages and a sense of subsequent depression. It has often been said on theoretical grounds that when the common duct is blocked the gall-bladder may be expected to be found dilated. Of late years the realization has come that this is seldom or never true and that when, for instance, it is stone that blocks the common duct, the gall-bladder is usually found tightly con-

tracted. It does not often happen that a stone blocks completely the common duct. The contractions of the gall-bladder are able to force some bile past the obstruction. The presence of stones in the gall-bladder has usually given rise to a chronic inflammation and this chronic inflammatory process leads to irritative contractions of the gall-bladder and the formation of contractile tissue in its walls that inveterates the contracted condition. If an obstruction occurs at the papilla of Vater and the gall-bladder is normal, it will be found distended with bile. Dr. Gibson has found the gall-bladder usually not much larger than the last two joints of the little finger and firmly contracted.

The X-Rays and Malignant Growths.—Dr. William J. Morton then read a provisional report of cases with notes on the treatment of malignant growth by the X-rays. The first case discussed was that of a patient suffering from an epithelioma of the cheek. This had run a very persistent course. It was first noticed over fifteen years ago and then, as the result of cauterization, improved somewhat. Afterward it was treated with arsenic paste for a time and was so much improved that it seemed to be cured. Later it broke down again and for this last year produced great disfigurement and considerable loss of tissue. Before treatment with the X-rays there was hardening of the tissues for three-quarters of an inch beyond the edge of the ulcer, all of which has softened as the result of about three weeks of treatment with the X-rays. Sections of the growth at the edges of the ulcer examined by a competent pathologist are shown to be characteristically epitheliomatous and photographs of these sections were exhibited. The case is not cured, but so much improvement has come and there is so much less discomfort from the ulcerative process that the patient is enthusiastic over the new method of treatment.

Recurrent Sarcoma.—Dr. Morton's second case described was a young woman suffering from what proved to be sarcoma of the elbow. The first symptom noticed was a painful condition of the elbow-joint diagnosed and treated as rheumatism. After a time considerable swelling developed and it was thought that tuberculosis was present. Excision of the joint was practised, but sections of the tissues showed that the process was sarcomatous. The arm was amputated then in the upper third. After a few months the set of pains resembling those that first occurred in the left elbow were noticed in the right. A similar swelling of the joint developed. A Roentgen radiograph of the subsequently amputated arm had been taken and this was compared with the radiograph of the suffering right arm. The two showed the same abnormal characteristics, with disturbance of the light and dark areas in the bone that showed the existence of similar pathological conditions. The right arm was submitted to the X-rays and after the second treatment the pain completely disappeared. It has been treated for a month and the swelling has disappeared and now the arm can be used entirely as if nothing were the matter. The patient is able to swing it, lift weights and do everything as before. Meantime sarcoma has developed in the stump of the amputated arm. This is under treatment with the X-rays, and though the case is not definitely cured great improvement has been obtained.

Carcinoma of Breast.—The third case described was that of a patient who suffered from hard tumor of the left breast which developed in the part subsequent to an injury incurred while bicycle riding. The glands were found enlarged in the axillæ and these with the tumor in the breast were removed. Some six months later recurrence took place and the entire left chest became infiltrated with the neoplasm. There were evi-

dently also metastases to the lungs. The patient complained of intense pain darting to the back. The other breast became brawny, showing the presence of hard nodules, and was evidently involved. Pain was one of the most prominent features in the case. Even large quantities of morphine did not prove sufficient to allay it and the patient was almost in despair. This pain ceased entirely after the first exposure to the X-rays. The tumor in the left chest had broken down and an extremely fetid discharge made life additionally uncomfortable for the patient and her friends. The odor of this discharge ceased almost entirely after the first few treatments. The discharge was increased at first and even portions of the tissue came away in it. Instead of a state of intense suffering the patient became quite comfortable and now the brawny feeling all over the chest has given way to the flaccidity of healthy skin. In a second case of mammary carcinoma the patient had fallen and hurt herself on the right breast. She noticed shortly afterward a hard nodular growth in the breast and, fearing to see a surgeon, applied to an osteopathist. He reduced the growth by manipulation, but it recurred and became extremely painful. Two months ago her pain was so great that she had to get up at night and could only compare the shooting pains in back and shoulder to continuous neuralgia; whenever the twinges of acute pain were not present there was a dumb ache which was almost unbearable. As the result of two or three applications of the Roentgen rays the acute pain ceased and the patient's life became much more comfortable. A reduction of over one inch in the circumference of the tumor took place within ten days after the institution of the X-ray treatment. The breast is softer than before, the nipple is no longer retracted and the patient is able to button her dress, something she was not able to do for some months before because of the intense pain caused by even this slight pressure. One of the most surprising features of the case is the almost instantaneous relief of pain through the X-rays. A few minutes after they were applied for the first time the patient felt that a weight which had been oppressing her for months was lifted off her. Because of the pain in this case the X-rays were applied with their maximum intensity. Considerable local reaction was noticed in the skin, which became very red and took on appearances resembling those of severe sunburn. The skin did not break down, however, and later became normal in appearance. After treatment for twenty days the size of the growth was reduced, so that it measured only three and a half by two inches instead of five by five inches, as formerly. In this case there was also a neoplastic boss on the sternum which has likewise been reduced in size. This patient was referred to Dr. Morton by Dr. Coley who pronounced the affection a case of typical mammary carcinoma with sternal involvement and absolutely inoperable.

Gastric Cancer.—In the fifth case treated by Dr. Morton the symptoms all pointed to the existence of carcinoma of the stomach and there was even a distinct tumor present in the epigastric region. The patient's sister had died from gastric cancer. One of the main features of the affection was considerable pain, which was lessened after the first application, and after three or four treatments entirely disappeared. It still recurs as yet between the times of treatment, though the patient is able to take food much better than before. Within a few minutes after the application of the Roentgen rays the pain is very much lessened.

Sarcoma of the Head.—Dr. Morton's sixth case was a sarcoma of the temporal bone. This had been operated upon and as much as possible of the malignant growth removed. The recurrence was treated as care-

fully as possible with caustics, but without any lasting effect. Coley's fluid, the mixed toxins that have given results in a number of cases, was then employed, the tumor was reduced in size, the patient's general condition improved and for a time the outlook was hopeful. Later, however, the sarcoma recurred and spread beyond its original limits, especially in the bones of the skull, so as to make it entirely inoperable. The patient complained of great pain which was almost intractable to ordinary analgesic remedies. Large amounts of morphine had to be used in order to induce sleep, and even then the rest was troubled and unsatisfactory. After three treatments with the X-rays the patient was able to sleep at night and to cut down the dose of morphine usually taken to less than one-fourth. In a week the tumor was very much reduced in size and the broken-down tissue on its surface began to dry up and become absorbed. The case is evidently progressing towards cure and, though the patient has not been under observation for a long time, too much can not be said of the results obtained. If nothing more than relief from pain had been accomplished it would be a great therapeutic victory.

Nodular Carcinomata.—The eighth patient described by Dr. Morton came to him suffering from recurrent carcinoma of the breast. When first seen there was a nodular tumor the size of a pigeon egg, extremely hard and fixed to the rib. It had an angular feel and was beginning also to be attached to the skin. The patient had already had three operations for the removal of such nodules. The glands in the axilla were involved and the surgeons insisted on removing the breast and its glandular connections, but the patient absolutely refused to permit it. After three treatments with the X-rays the nodule in the breast became much less noticeable, its angles became rounded and could scarcely be felt and the tumor was evidently decreasing in size. For four days the patient, owing to social engagements, did not return for treatment; when she came back examination showed that some of the characteristics of the tumor as originally noted were again to be felt and it was evident that only a partial effect had been produced. After this treatment was regular and the nodule disappeared completely in the course of three weeks. This case was under the care of Dr. Coley, who confirms all that Dr. Morton says with regard to it.

Remarks on the X-Rays.—Dr. Morton called special attention to the fact that the X-rays produced almost immediate and complete relief from pain. In this matter they are much better than any of the ordinary analgesics; one patient, who had had considerable experience with both, said that the relief they afforded was as great as that produced by morphine and was much more lasting. This points to the fact that the nerves of sensation of the part are entirely benumbed. The lowering of the nerve function of sensory nerves probably indicates also that all nervous supply to the part may be similarly affected. The nerves along which trophic impulses travel to the new growth are rendered incapable of function, hence the retrogression of the new growth itself. Through the nerves a true paresis of all the protoplasm of the part is effected. The action of the X-rays on micro-organisms would also affect the micro-organism of cancer if it were present. The most important feature of the new growths that are amenable to treatment by the X-rays is superficiality. If the growth is situated in the skin itself or if it is not covered by skin because of ulcerative processes, then the X-rays are sure to be useful. There seems no doubt that epithelioma of the skin can be cured; also broken-down carcinomata of deeper tissues with the portions of the new growth exposed, because of cutaneous sloughing,

can be favorably influenced. Superficial sarcomata are also amenable to treatment in this way. Dr. Morton considers that the cases that he has reported show the practical value of the X-rays in all forms of superficial malignant growth and even in some malignant neoplastic processes in deeper tissues. These cases certainly indicate that further investigation of this form of treatment may prove of the greatest possible value and may disclose a successful therapeutic method for affections that have proved obstinate to every form of treatment so far suggested.

Technic of X-Ray Medication.—Dr. Morton said that both forms of radiation, that derived from Ruhmkorff coil, or from a static machine, may be used for the production of the X-rays for the cure of cancer. The tube employed for the X-rays should be Crookes' tube as modified by Jackson. When it is necessary to protect a portion of the exposed surface of the patient from effect of the rays, Dr. Morton uses a screen of block silver or block tin, which is not grounded, nor is the patient insulated. The talk with regard to the dangers that might be apprehended from the use of screens not grounded was started by Nicola Tesla; the fear in the matter, however, is not based on any well recognized principle in physics and the precautions are unnecessary. Dr. Morton prefers the tubes with a high vacuum equal to about a seven-inch air gap. Tubes thus made need not be too strongly actuated. Jackson's modification of Crookes' tube does not deteriorate very rapidly and will produce its effect for a long time. The X-rays should be employed in such a way as to produce a decided effect upon the tissues and yet not cause gangrene. There are certain difficulties and dangers in this matter, to avoid which requires special experience. If the X-rays are used in very strong concentration there is great danger of seriously injuring cutaneous tissues. As the incubation period for gangrene of the skin, after X-ray exposure is from nine to twenty-one days there is great uncertainty as to the results. The operator may be accumulating a series of gangrenous processes that will make themselves felt successively some time after the treatments.

Dr. Gibson said that the experience at St. Luke's Hospital with the X-rays shows that very probably there is some great service to be expected from their use in the treatment of malignant disease, and that further opportunity for the employment of this method of treatment should be looked for so as to decide the possibilities and the limits of their application.

Dr. Walker said that this method of treatment is in the hands of experts as yet and that, while results are promising, so promising as to be almost alluring, the profession must await further results at the hands of men who thoroughly understand the application of the method.

Dr. Coley said that in one case which he had referred to Dr. Morton there was recurrent malignant growth in the bones of the mastoid and temporal regions that made the case absolutely hopeless until the X-rays were applied. The improvement effected was so great as to constitute a subsidence of all discomforting symptoms. The patient is not cured, but is so much benefited that practically all the annoying symptoms have disappeared and the disappearance of the tumor gives great hope that even radical cure may possibly result. Dr. Coley recently saw a case of sarcoma involving the entire front of the abdominal wall from the umbilicus to the pubis. The condition was completely inoperable and seemed absolutely hopeless. Under the X-ray treatment, in Dr. Skinner's hands, the tumor decreased very much in size and became much less annoying. This tumor con-

tained a large amount of fibrous tissue and consequently a slow disappearance might have been expected. In the case of the mammary nodule which disappeared under X-ray treatment in Dr. Morton's hands, Dr. Coley said that personally he had not a single doubt of its malignant character, but he could not obtain the patient's permission to do anything more than remove the nodule. The pathological report after its first removal showed its malignant character. The woman said she would rather die than lose her breast. When it recurred a third time the case seemed hopeless. After scarcely more than a month of treatment no trace of the nodule can be found.

Specific Ulcerations.—Dr. Sturgis said that the epithelioma of the face presented by Dr. Morton looked suspiciously like a specific ulcer of the cheek. He asked with regard to the specific history and said that the general character of the ulceration, its punched-out appearance, its frequent healing and recurrence, its long continuation without involving tissues very widely, its tendency to spread deeply into the tissue rather than advance in the skin itself, all point to the possible syphilitic origin of the affection.

Dr. Foote said that the ulcer reminded him of syphilitic ulcerations that he had seen in this location, and the comparatively non-malignant character seemed to point to the same fact. If the process had been really epitheliomatous, the patient would scarcely have survived for the nearly twenty years over which the history of the lesion extends.

Dr. Coley said that certain of the characteristics were surely those of a specific ulceration, but that Dr. Morton's description of the cure of the induration surrounding the ulcer during the treatment by the X-rays might point to the fact that there had been a radical change in its appearance during the last few weeks as the result of treatment. The long history of the case certainly seemed to throw suspicion on the diagnosis of epithelioma, for lesions as deep as this are wont to be especially malignant in character, and the case would have had a fatal termination long before this, very probably, if it were genuinely epitheliomatous.

Dr. Morton, in closing the discussion, said that the case had come to him as one of epithelioma. A portion of the tissue of the cheek at the edge of the ulcer had been removed and examined microscopically by a competent pathologist in Brooklyn, and had been pronounced to be surely malignant. Microphotographs of the microscopic sections made by the pathologists had been taken and Dr. Morton exhibited one of them. This showed the characteristic appearances of an epitheliomatous growth; there were epithelial cell-nests and some infiltration of deeper-lying structures by epithelial cells. With regard to the possible specificity of the lesion, Dr. Morton said that much of the suspiciously deceitful character of the lesion which now seemed to point to its possible syphilitic origin was due to the treatment by the X-rays. The hard indurated edge of the ulcer extended in some directions for half an inch away from the ulcerated area before the commencement of the treatment. Considerable experience with X-rays and their effect upon specific ulcerative lesions has been reported from Germany. The X-rays do not act favorably on specific lesions, but on the contrary rather seem to cause them to diffuse. In the present case there has been such an immediate and decided relief of symptoms that the patient is enthusiastic in her hope of ultimate cure. Notwithstanding the deceitful appearances, then, there seems no good reason to think that there has been a mistake in diagnosis; in any case, the ulcerative lesion of long standing has been decidedly helped by the X-rays.

EASTERN MEDICAL SOCIETY OF NEW YORK CITY.

Stated Meeting, Held February 14, 1902.

The President, R. Abrahams, M.D., in the Chair.

Limitation of Obstetric Operations.—Dr. Edward A. Ayers opened a discussion on this subject. He pointed out the importance of careful antepartum examinations; the majority of contracted pelves could thus be detected early before labor sets in, and appropriate preparations and treatment applied. He then discussed the respective merits of Cesarean section and symphysiotomy by stating that the former is more dangerous for the child, while in skilled hands symphysiotomy offers better chances of delivering a living child. Dr. Ayers deplored the unfortunate fact that most of the cases suitable for operation are seen late, when labor has progressed, and forceps have repeatedly and forcibly been applied in vain; the woman is already exhausted and the exposure by removing her at such a time to a hospital further reduces her vitality. Under such circumstances version or even craniotomy is the only thing left to be done. In cases of early loss of the amniotic fluid, version is dangerous on account of the liability of rupture of the uterus, while forceps in such cases are dangerous for the child. Dr. Ayers then discussed the question as to which operation should be preferred in a private dwelling, Cesarean section or symphysiotomy, enumerating the instruments and preparations necessary for the performance of these operations and emphasizing that the most important requisites for both operations is thorough asepsis. He showed that abdominal section at a patient's home, particularly in a tenement-house, is difficult and dangerous. The technic of his subcutaneous method of symphysiotomy was carefully described in detail. The brilliant results of the Cesarean section at the present time, Dr. Ayers attributes not so much to the improved modern technic, as to the early and timely operation, before labor has set in and reduced the vitality of the woman. Still, symphysiotomy has a mortality of only $2\frac{1}{2}$ to 5 per cent. when done in time and by skilful hands.

Dr. C. A. Von Ramdohr discussed the indications for forceps and stated that the most important requisites for a successful forceps operation are a normal head, a normal presentation, rupture of the membranes and an engaged head in a dilated cervix. If every physician would look out for this condition before applying forceps, he would meet with no untoward complications. Speaking of version, Dr. Von Ramdohr said that a pelvis with conjugate diameter below three inches is a contraindication to a successful version. Outside of this there is no limit to successful version if done patiently and dexterously.

Dr. S. Marx is of the opinion that in a case of labor, the interests of the mother are most important, and all one's energies should be concentrated on one purpose—to injure the mother as little as possible. Viewed from this standpoint, perforators, craniotomes, cranioclasts, etc., are conservative instruments, and not relics of barbarism, as some would lead one to think. With all the progress which has been made in Cesarean section and symphysiotomy there is still a good field for the operations of craniotomy, decapitation, embryotomy, etc. After describing the indications for all these operations, Dr. Marx drew the following deductions and conclusions: (1) A strong plea is made for the early and timely recognition of abnormalities of the pelvis or of the fetus. (2) Such timely recognition gives the very best opportunity for instituting, as nearly as possible, elective means for overcoming practically all such complications, and thereby very frequently obviating the

necessity of performing mutilating operations on the fetus which by an early interference might have been prevented. At least it can be said that, having a case well in hand, a non-infected woman, with a healthy child inside of her uterus, can be subjected to almost any form of major operative interference with the prospects of the very best results. (3) A clear recognition of the indications for the use of the destructive instruments is of the greatest importance, since by their early application the very best purpose is served, without doing the badly-maimed or dying fetus the least bit of harm, since in these cases the child's condition must never be seriously taken into consideration.

Dr. Charles Jewett spoke of the indication for Cæsarian section, saying that the operation has gained much by modern methods of asepsis. While formerly only a 5-centimeter conjugate diameter of the pelvis was considered an indication for abdominal section, today a woman with a conjugate of 7 centimeters should be subjected to the operation. When the pelvis has a conjugate diameter of about 7 centimeters, Cæsarian section comes into competition with symphysiotomy, induction of premature labor, and craniotomy. Of course, craniotomy is indicated when the fetus is dead; it is also indicated when the mother has become exhausted; when the fetus is non-viable or is a monster; when the uterus is infected; but it must not be forgotten that besides the death of the child, craniotomy has also a mortality of the mothers. Induction of premature labor does not offer a very brilliant prognosis as to fetal mortality, but it is much better for the inexperienced operator. Symphysiotomy has, according to Dr. Jewett, been crowded out by the low mortality of Cæsarian section, and is only restricted to cases in which very little more space is needed for a successful delivery, particularly in case the mother is exhausted. Cæsarian section at present has a mortality of hardly more than $\frac{3}{4}$ per cent. in selected cases, under the best condition and surroundings. It is best performed during the second stage of labor, provided no infection has occurred. Hysterectomy is indicated when there is a probable infection of the uterus; when the mother is exhausted, hysterectomy is a better operation than simple Cæsarian section; also in cases of cancer of cervix, in myomatous uteri, in syphilis of the mother, and according to some authorities in criminal tendencies of the parents, and in osteomalacia.

Dr. H. J. Garrigues stated that indications vary with results obtained and with the personal aptitudes of the operator. One operator may be more successful with the application of the forceps, the other with version, etc. The physical condition of the patient has a great influence, particularly as to infection. Nobody will perform Cæsarian section on a woman with an infected uterus. The reports of the low mortality of Cæsarian section are misleading; in selected cases, the operation has a mortality of 7 per cent.; taking all cases, at least 19 per cent. Symphysiotomy ought to be more often performed, particularly in cases in which infection has occurred before the operation. Speaking of forceps and version, Dr. Garrigues called attention to the danger of the operation in cases of moderate contraction of the pelvis with a conjugate below four inches. Dr. Garrigues is of the opinion that craniotomy ought not to be performed on a living child.

Dr. B. Gordon entered a protest against meddling with midwifery, stating that the vast majority of women have normal pelvises; and when the pelvis is slightly contracted, Nature usually comes to the poor woman's assistance by producing a small child. Dr. Gordon states that in cases in which the existence of a narrow pelvis is discovered early in pregnancy, it is his practice

to order a reduction of the carbohydrate diet of the woman, keeping her mostly on albuminous food and thereby reducing the size of the child. He has been very successful with this mode of treatment.

Dr. Joseph Barsky stated that, speaking as a general practitioner who practices in the tenement district, he cannot find any field for symphysiotomy among poor patients, because this operation requires careful preparation and nursing, which poor women cannot obtain. A poor woman must be able to perform hard labor soon after confinement and symphysiotomy nearly always leaves the woman in a condition in which she is unable to do even housework for weeks after her delivery. The only procedures he has found applicable in his extensive obstetric practice are version, forceps and craniotomy. In cases in which the pelvis is slightly more than three inches in its conjugate diameter, version may be of avail or even forceps if the child is not too large, particularly when the sagittal suture is found on manual examination to be in a transverse direction, inclining toward the promontory. Version is sometimes very difficult when the child has broad shoulders and especially when the head is large in proportion to the pelvis. In these latter cases Dr. Barsky has sometimes found it necessary to perform craniotomy on the after-coming head. In cases in which the conjugate diameter measures less than three inches the only resort left is craniotomy. If the parents are very anxious for a living child, of course Cæsarian section finds its best place in these cases. Dr. Barsky took exception to Dr. Von Ramdohr's statement that a forceps operation can only be successful when the head is engaged. He has repeatedly delivered women of living children when the head was not engaged at all. And he emphasized the fact that the forceps have absolute indications even when there is no engagement of the head, particularly if the woman be exhausted, in tonic contraction of the uterus, version being dangerous to the mother under such circumstances.

Dr. E. K. Browd stated that from 2,000 labor cases which he has attended during the last sixteen years, the most important lesson he has learned is not to interfere until it is absolutely necessary.

The discussion was continued by Dr. J. Rosenberg, Dr. Zwiesohn, and others.

BOOKS RECEIVED.

The MEDICAL NEWS acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the MEDICAL NEWS will shortly appear.

SYPHILIS. A Symposium. 12mo., 121 pages. E. B. Treat & Co., New York.

PSYCHOLOGY, NORMAL AND MORBID. By Dr. Charles A. Mercier. 8vo., 518 pages. The Macmillan Co., New York.

DIE BIRUFKRANKHEITEN DES OHRES UND DER OBEREN LUFTWEGE. Dr. F. Röpke. 8vo., 148 pages. J. F. Bergmann, Wiesbaden. Stechert, New York.

UEBER DIE AETIOLOGIE DES CARCINOMS. By Dr. Gustav Fütterer. 8vo., 124 pages. Illustrated. J. F. Bergmann, Wiesbaden; Stechert, New York.

MUSKELFUNCTION UND BEWUSSTSEIN. By Dr. E. Storch. 8vo., 86 pages. Illustrated. J. F. Bergmann, Wiesbaden; Stechert, New York.

DIE GROSSHIRNINDE ALS ORGAN DER SEELE. By Dr. A. Adamkiewicz. 8vo., 80 pages. Illustrated. J. F. Bergmann, Wiesbaden; Stechert, New York.